25th Anniversary Issue

FEEDSTUFFS

★ A WEEKLY NEWSPAPER ★

FOR THE FEED MANUFACTURER, JOBBER, BROKER and DEALER

Copyright 1955 Feedstuffs

Volume 27—Number 21 MAY 21, 1955 1 Year $4, 2 Years $7

AFMA Convention Theme to Be Echoed By Benson Speech

CHICAGO—The convention theme of "The Challenge of Opportunity" will be sounded by Ezra Taft Benson, U.S. secretary of agriculture, who will make the keynote address of the American Feed Manufacturers Association's annual meeting here.

The attraction of a well-rounded program, in which prominent industry leaders, researchers and government officials will participate, has boosted advance registrations 20% over last year's total when the convention registration reached 1,621.

The group's 47th annual meeting will open May 25 and be concluded

(Continued on page 8)

O. K. DROUTH AID FOR SIX TEXAS COUNTIES

WASHINGTON—The U.S. Department of Agriculture this week authorized the redesignation of six Texas counties as drouth disaster areas where eligible farmers and ranchers may participate in drouth emergency programs.

The counties are Borden, Gillespie, Guadalupe, Lampasas, Llano and San Saba.

The designations bring the national total of designated counties to 216 in eight states. These include: Arizona, 8; Colorado, 28; Kansas, 6; New Mexico, 26; Texas, 112; Oklahoma, 15; Utah, 2; and Wyoming, 19.

(Widespread rains were reported in many of these areas by the end of the week, but it was not known what effect they would have on the drouth relief programs.)

Flock Replacement Chick Output Remains Slow; Broiler Placements Gain

WASHINGTON — One big reason for reduced feed business this spring is evident again in the U.S. Department of Agriculture's report on commercial hatchery operations during April.

The report, issued this week, shows that the number of chicks hatched for flock replacement during April was down 19% from a year earlier. And for the first four months of the year, January-April, the total for flock replacement was off 25%.

Reflecting low egg prices in the past year, farmers have cut back sharply in their purchases of baby chicks this spring. However, the cutback indicates very favorable returns to egg producers later when laying flocks are reduced.

While hatchings of chicks for laying flock replacement have continued below 1954 levels, chick placements in commercial broiler areas have been larger recently.

Total Hatch

The output of all chicks by commercial hatcheries during April was 11% below a year ago, according to USDA. The number of chicks produced during the month totaled 270,442,000, compared with 304,188,000 in April last year.

(See table on page 173.)

Of the total hatched during April, 114,741,000 were for broiler production and 155,701,000 were for other purposes. On the basis of the number

(Continued on page 8)

Cwt.-Bu. Discussion Scheduled May 25

CHICAGO—A full-dress discussion of the cwts. vs. bushels subject will be one of the highlights of the meeting of the American Feed Manufacturers Assn. committee of purchasing agents, scheduled for 1:45 p.m. May 25 in parlor C of the Hotel Morrison.

This will be an open meeting for all industry purchasing personnel, announces E. M. Ellis, Hales & Hunter Co., Chicago, and chairman of the

(Continued on page 172)

Wheat Quota Rejection Seen As Beneficial to Feed Industry

By JOHN CIPPERLY
Feedstuffs Washington Correspondent

WASHINGTON—The June 25 referendum on wheat marketing quotas for the 1956 wheat crop will carry significant news for the feed industry for the next 18 months. What these news tidings will convey depends on the choice the wheat farmers make—either in accepting or rejecting the marketing quota proposals for the next crop.

A rejection of the quota proposal is seen as an event that will set the stage for enactment of a sound farm price program and may be the dawning of a long period of stability and opportunity for expansion in the feed industry.

The farmer's choices are being stated factually by the U.S. Department of Agriculture through statements made by Ezra Taft Benson, secretary of agriculture, and through directives to ASC committeemen to inform the farmers, but not to attempt to sway their decision.

Work for Approval

Working actively for a favorable referendum vote are the National Farmers Union and Farmers Union Grain Terminal Assn. USDA officials admit that these two organizations may be able to swing heavy majorities that would carry the referendum.

Other ward level political activities in the forthcoming vote are said to be the wheat farmers in Kansas and the Pacific Northwest where producers have been unsuccessfully plugging for a two-price system for wheat. Reports indicate that these groups will vote against the referendum hoping that by so doing they will persuade Congress to scrap the 50% of support mandate which the present farm law provides when marketing quotas are rejected, and substitute the two-price system.

Looming large are some salient

(Continued on page 173)

A Birthday Bundle Tied With Ribbon 25 Years Long

25th FEEDSTUFFS ANNIVERSARY

As the formula feed industry has progressed and grown over the past quarter century, Feedstuffs has been recording the events and developments—and, yes, some problems—which have been part of the tremendous progress. In observance of its 25th anniversary of reporting the news of the industry, Feedstuffs pauses briefly to present special features which provide a look at important developments of the past and also a look into the future of scientific feeding and the feed industry. The principal part of this anniversary issue is a center insert which is a "Progress Report to the American Feeder." Anyone wishing to remove and preserve this insert may do so by loosening the staples which bind it into the paper. Other features, most of which are of a special anniversary nature, include:

Industry History	10	Putting Feed Research to Work	86
A Look-Around	10	Feed Control Work	111
Feed Production	6	USDA Men Look at Industry	39
Poultry Nutrition Advances	42	Progress and Service	40
Broiler Nutrition	113	Feed Mill Production Man	61
Broiler Feed Comparison	71	Production Progress	64
Turkey Feeds, 1930-1955	98	Industry Veteran Recalls	34
Feeding Dairy Cattle	95	Ringing the Cash Register	60
Beef Cattle Feeding	104	Joe Brooks ...84 Feed Fables	120
Values of Range Cubes	78	Worth Looking Into	150
Economics of Early Weaning	38	Convention Calendar	143
Use of Antibiotics	72	Feed Markets in Detail	172
Vitamins, Minerals	115	Classified Ads	166
Preparing Nutrient Requirements	88	Index of Advertisers	175

Feedstuffs Prices Show Sharp Drop

MINNEAPOLIS — Prices of feedstuffs the first part of May were sharply below a year ago with the greatest declines noted in soybean oil meal, tankage and meat scraps.

The feed market summary issued by the Agricultural Marketing Service, U.S. Department of Agriculture, shows that at the beginning of the second week of May, feed prices averaged 8% below the 10-year average.

Soybean meal averaged about $40 ton below a year ago while meat scraps and tankage were around $47 @49 ton under last year. Linseed oil meal prices averaged about $20 lower while cottonseed oil meal was $8 below a year ago.

Wheat millfeed prices were $2@4 lower, with the larger decline in bran prices. Of the other grain by-product feeds, gluten feed averaged $14 below a year ago while hominy feed averaged $6 lower. Alfalfa meal, which is seasonally low at this time of the year, averaged $5 a ton below a year ago.

Comparing the price of each feed with the 10-year average at the principal markets, meat scraps and tankage at 21-26% below the 10-year average, were relatively the cheapest.

★ FEEDSTUFFS ★

A Weekly Newspaper Published by
THE MILLER PUBLISHING CO.
2501 WAYZATA BLVD., MINNEAPOLIS, MINN.
(Address Mail to P. O. Box 67, Minneapolis 1, Minn.)
(Telephone: Main 0575. All Offices Serviced by Bell System Teletype)

EDITORIAL STAFF—Harvey E. Yantis, Editor; Milton B. Kihlstrum, Managing Editor; Martin E. Newell, Paul L. Dittemore, Associate Editors; Roger Bergland, News Editor; George L. Gates, Market Editor; Frank W. Cooley, Jr., Emmet J. Hoffman, Editorial Assistants; L. B. McDonald, Research Director.

WASHINGTON REPRESENTATIVE—John Cipperly, 604 Hibbs Building, Washington, D. C., Telephone, Republic 7-8534.

BUSINESS STAFF—Carroll K. Michener, Chairman of the Board of Directors; H. J. Pattridge, Honorary Chairman; Harvey E. Yantis, President; Milton B. Kihlstrum, Executive Vice President and Treasurer; Martin E. Newell, Vice President; Don E. Rogers, Vice President; Wilfred E. Lingren, Secretary and Advertising Sales Director; Thomas A. Griffin, Business Manager; Edwin J. Hartwick, Circulation Manager; James G. Pattridge, Assistant Treasurer; Carl R. Vetter, Advertising Production Manager.

BRANCH OFFICES—SOUTHWEST, Martin E. Newell, Manager, James W. Miller, Assistant Manager, 614 Board of Trade Bldg., Kansas City 5, Mo. (Tel. Victor 1350); EASTERN STATES, George W. Potts, Paul L. Dittemore, Co-Managers, 114 E. 40th St., New York 16, N. Y. (Tel. Murray Hill 3-3768); CENTRAL STATES, Don E. Rogers, Manager, Henry S. French, Assistant Manager, 2272 Board of Trade Bldg., 141 W. Jackson Blvd., Chicago 4, Ill. (Tel. Harrison 7-6782).

Correspondence regarding subscriptions, changes of address, etc., should be sent to Circulation Manager, Feedstuffs, Box 67, Minneapolis 1, Minn. Single copies 20¢. Subscription rates: One year $4, two years $7, in the U.S., U.S. possessions, Canada and Pan-America. Add $3 a year for postage to other countries. Readers are urged to give prompt notice of change of address and to anticipate future changes by at least two weeks' advance notice. Ask postman for form 22-S. Feedstuffs accepts subscriptions only through its own offices; no subscription solicitors are employed or recognized. Associated publications: The Northwestern Miller, The American Baker, Milling Production, Croplife.

Entered as second-class matter Feb. 25, 1947, at the post office at Minneapolis, Minn., under the Act of Mar. 3, 1879

The controlled circulation of this issue is concentrated in the northeastern states

The Lesson From the Past

MANY columns of this issue of Feedstuffs are devoted to piecing together the pattern of the past. Inasmuch as it is the 25th Anniversary issue of the publication, such editorial treatment is proper. But the reminiscing, while interesting, has value only as the events of the past trace the paths that have led to the present, and point to those which will result in future progress.

The editors have made an effort, in carrying out the monumental task of selecting news, editorial comment and features from the more than 1,300 issues that have been published since 1929, to give some meaning to the excerpts reprinted. We have tried to choose items that would reflect the industry activities, problems and accomplishments of the year being reviewed, and put these together with sufficient continuity so that a story of the 25 years is told.

Old timers and new comers alike will enjoy these features, we believe, and will gain something from them.

★ ★ ★

THERE is much that is amusing in the statements, beliefs and methods of 25 years ago and less, but probably that could be said at any stage of an industry's development, when it has been growing as rapidly as the feed industry. We came across, for instance, a copy of "Crows & Cackles," a poultry magazine published in 1926, which carried an article headed: "That Cod Liver Oil Is 'Bunk'." It said: "Some unscrupulous feed manufacturers are making ridiculous and extravagant claims with reference to the use of cod liver oil in their poultry feeds. Any feed manufacturer who claims that he uses cod liver oil in sufficient quantities in his feed to do any good is to be doubted, and in the second place, does not know what it takes to make a good feed or the real purpose of cod liver oil. . . . There is only one reason it is used in commercial feeds—'to fool the public'."

A 1930 article in Feedstuffs concerned the important advances in poultry nutrition knowledge that occurred between 1920 and 1925. Some excerpts: "The Wisconsin Agricultural Experiment Station was first to discover the vitamin D factor and its application to poultry feeding by means of cod liver oil. Closely following this the Kansas and Wisconsin Stations, almost simultaneously, discovered the vitamin D properties of unfiltered or direct sunlight and its utilization for poultry. The next contribution towards the complete ration was that of the green feed factors, by the Ohio Experiment Station, which completed the circle that gave us our complete rations of today.

". . . Little wonder that poultry feeding and management became suddenly revolutionized when such information became available. While it is questionable even today whether our present information will enable us to compete with Nature's contributions of a good outdoor range, yet the fact that birds of all ages, including breeders, can be fed and managed with a high degree of success indoors has offered new opportunities and new fields for developments which have been responsible for the phenomenal growth of commercial poultry keeping during recent years.

". . . It appears there is plenty yet to be done in the way of completing the so-called 'complete ration' of today. . . . Perhaps the larger discoveries and advancements have been made but it remains for various refinements and improvements to be added which will necessitate more painstaking research work and experience than was required for the big, fast-moving discoveries between 1920 and 1925. . . . There have been few if any headlines since 1925 despite the greater efforts by a larger number of better trained research workers. While more recent contributions have not been so startling or revolutionary, yet many improvements are being made or are under way. . . . The immediate problem is for a better application of the newer information now readily available relative to the feeding and management of poultry."

★ ★ ★

THERE was much more like that through the years. A lot of it makes funny reading now, but the important thing was the striving for knowledge, the realization that improvement could be gained, the desire to produce a better and better product at a lower price. These things were evident throughout the period, and were responsible for the accomplishments that have occurred. We can laugh at the incidents, but we can't laugh at the objectives or the constancy of progress toward those objectives.

The principal incentive in the growth of the formula feed industry has been profit, but if it had been only that the rewards would have been niggardly. Satisfaction in accomplishment and pride in an industry exist among feed men beyond any dispute, and in large degree. They indicate the basic soundness and strength of the industry and justify its place in the development of an animal agriculture.

To read, at one time, a summary of the happenings of the period since 1929 brings a strong realization of how the feed industry—using that term in its broadest sense—grew constantly toward a definite goal, and with surprisingly little deviation from that goal at any time. It also brings a strong realization that most of the gain in agriculture in the past 25 or 30 years has come through scientific research, and not through political maneuvering or new economic theories.

These are the real lessons to be learned from the 25-year history. The end is not yet; there is still so much to be done. It will be done as it has in the past—by intelligent, hard work in research, production, application and utilization.

A FEEDSTUFFS FORMULA FEEDS: HOW'S BUSINESS? FEATURE

Formula feed business showed few definite trends this week, and demand remains in the "so-so" category. A pickup in broiler feed sales in the Southeast is a bright spot, and in the Midwest hog feeds are moving quite well. Dry weather has hurt pastures in some areas, and prospects of better dairy feed are seen. The slump in starters and feed for layers continues to hold down over-all tonnage, although turkey feed trade is about normal for the season in most areas. Continued declines in feed prices have tended to slow down demand, although in spots more confidence in buying was developing. The index of wholesale feedstuffs prices declined 1 point to 202.7 and the feed grain index advanced 1.2 to 216.1 in the week ending May 18. (Ingredient details on pages 170-172.)

Southwest

Reports on feed demand in the Southwest this week were fair to good. Some manufacturers noted improvement, particularly in hog concentrates and in broiler feed, while others continued to run behind due to unsatisfactory chick and pig starter business and little in the way of dairy or cattle feed demand.

Prices held about steady, with some protein prices up and others down. A decline in soybean meal was offset by an advance in linseed oil meal. Carbohydrates were unchanged. Production averaged five days this week, with demand supplying running time very little ahead of the mill.

Most hatcheries are down for the season, and flock replacements in this area have been sharply lower. Some improvement may take place later in the year, but poor results on grain crops recently have made farmers more cautious on such investments as poultry. Turkey and broiler feed is moving in a volume about commensurate with the time of year. Hog feed is showing some improvement, although starter types are lagging somewhat. Heavy rains in some critical drouth areas have improved the outlook within the past two weeks.

Northwest

Formula feed sales in the Northwest were steady to somewhat improved this week, and operations were maintained at previous levels or extended.

Chick starter business has passed its peak, but apparently the season is stretching out this year. Some manufacturers expect that a fair amount

(Continued on page 174)

Thank You

Many persons have provided suggestions, help and special material for this 25th anniversary issue of Feedstuffs. The editors of Feedstuffs wish to express appreciation for this great amount of assistance. Persons who have helped include:

Dr. H. J. Almquist, The Grange Co.; Dr. W. M. Beeeson, Purdue University; Dr. E. R. Barrick, North Carolina State College; Dr. H. Ernest Bechtel, General Mills, Inc.; Walter C. Berger, U.S. Department of Agriculture; Dr. R. M. Bethke, Ralston Purina Co.; Dr. H. R. Bird, University of Wisconsin; L. E. Bopst, Association of American Feed Control Officials; James H. Burrell, James H. Burrell & Sons; Dr. George M. Briggs, National Institutes of Health; Dr. Wise Burroughs, Iowa State College.

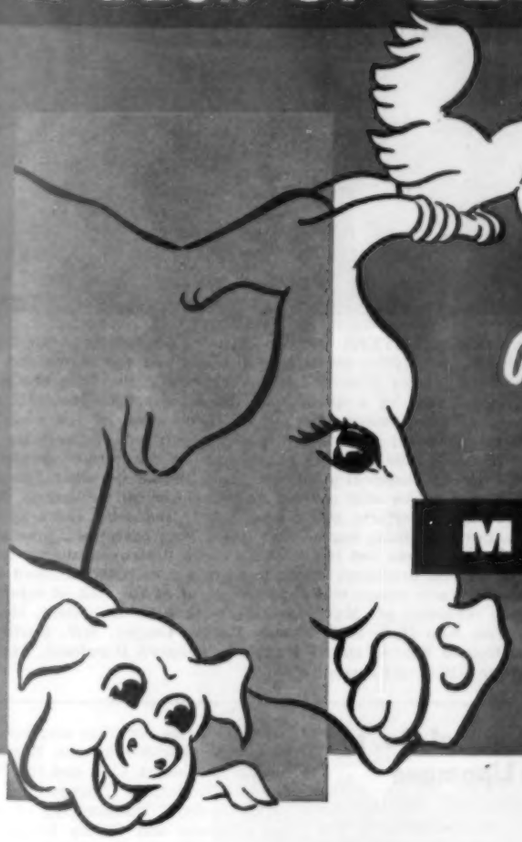
Prof. E. W. Callenbach, Pennsylvania State University; Dr. Damon Catron, Iowa State College; E. G. Cherbonnier, Grain & Feed Dealers National Assn.; Dr. Gerald F. Combs, University of Maryland; Dr. J. R. Couch, Texas A&M College; W. T. Diamond, American Feed Manufacturers Assn.; Roy Elrod, Archer-Daniels-Midland Co.

Stanley H. Gaines, U.S. Department of Agriculture; W. E. Glennon, American Feed Manufacturers Assn.; Prof. J. G. Halpin, Murphy Products Co.; Dr. L. E. Hanson, University of Minnesota; Dr. J. E. Hunter, Allied Mills, Inc.; Dr. E. L. Johnson, University of Minnesota; Richard L. Kathe, American Feed Manufacturers Assn.; Dr. J. K. Loosli, Cornell University.

George P. McCarthy, Universal Mills; James A. McConnell, U.S. Department of Agriculture, Dr. James A. McGinnis, Washington State College; Dr. L. A. Moore, U.S. Department of Agriculture; Dr. L. C. Norris, Cornell University; Dr. T. W. Perry, Purdue University; Prof. Paul M. Reaves, Virginia Polytechnic Institute.

C. W. Sievert, C. W. Sievert & Associates; Dr. E. P. Singsen, University of Connecticut; Harold B. Swanson, University of Minnesota; J. D. Sykes, Ralston Purina Co.; Dr. S. W. Terrill, University of Illinois; Prof. Rollin H. Thayer, Oklahoma A&M College; Erwin C. Wascher, Honeggers' & Co.; Dr. G. F. Whitlock, Merck & Co., Inc.; Dr. H. S. Wilgus, Peter Hand Foundation; T. E. Wilkins, Ralston Purina Co.; Wilfred Witz, Archer-Daniels-Midland Co.

A dash OF SESSALOM



and, then, you have it

MOlasses AT IT'S BEST!

SESSALOM—The molasses flavor booster that is a flavor protector and cost reducer

Many feed manufacturers are adding Sessalom to their feeds to stabilize and preserve a lasting rich molasses flavor and to control a uniform taste. (Molasses, we all know, is variable in taste according to its many origins.)

SESSALOM saves in many ways

Because Sessalom is not a nutritive factor, feed formulas need not be changed—except to allow for the elimination of other flavorings and to avoid excessive use of molasses as a flavoring which may produce undesirable laxative effects.

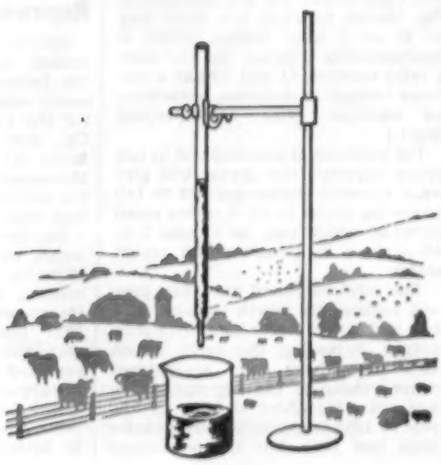
A powerful molasses intensifier, booster and flavor preserver, Sessalom is low in cost. *Liquid Form*—One pint of Sessalom to one ton of molasses which is added to feed according to the percentage of molasses required. As an example: For cattle, horses, mules, or pigs, the feed might start at 10 per cent—sheep at 5 and poultry at 2 per cent. *In POWDERED FORM* Sessalom may be added directly to the feed. Three ounces to a ton of 10 per cent molasses.

Sessalom treated feeds can be stored for longer periods without affecting the flavor and aroma of the feed.

Sessalom treated feeds allow the use of differing types of molasses without affecting the appetites of animals.

So, then you have it—Molasses at its best for as little as a few pennies a ton of feed.

A trial will convince you. A free sample, or a small trial order will be sent upon request.



Years of research with animals and birds and in the FCA Research Laboratories have led to the development of a complete line of animal and poultry feed flavors for standardizing and controlling palatability of feeds.

FLAVOR CORPORATION OF AMERICA, FARM FEED SALES DIVISION
Dept. FX-55, 3037 NORTH CLARK STREET, CHICAGO 14, ILL.

Continued Expansion of Hog Production Seen by USDA

WASHINGTON — Lower support prices for feed grains, planned increases in feed crop acreages and continued high incomes of consumers are pushing toward further expansion of hog production. This anlysis is contained in the May report on the Livestock and Meat Situation published by the U.S. Departmefit of Agriculture.

The report states that despite reductions in support prices for feed grains, farmers intended on March 1 to plant the same acreage as last year to corn, 1% more to oats, 9% more to barley and 7% more to sorghums. Lower acreage allotments for wheat and cotton have freed lands for other uses, accounting for much of the increases in feed grains.

Though the support price for corn may be slightly lower, acreage allotments will be somewhat larger, making compliance easier. In any year when the corn crop turns out to be fairly small, the degree of compliance with allotments has little effect on prices of corn or on the number of hogs, the report states. "But when yields are high and the crop large, a high compliance will tend to restrict hog production while low compliance will usually result in an increase. When most of the corn is not eligible for support, it is fed to livestock."

The report says that neither the degree of compliance nor the size of yield in 1955 can be anticipated yet, but predicts that high yields without high compliance would almost certainly give a boost to hog production.

Ratio Affects Farrowings

The hog-corn price ratio was below average this winter and therefore was unfavorable for hog production. For March to July, the ratio may be 12 or a little higher, which is approximately average. In the past, a ratio between 11 and 12 has sometimes brought a decrease, sometimes an increase. (See accompanying chart.)

The substantial seasonal rise in hog prices expected this spring will give some renewed encouragement to fall farrowing plans. In all, a rather small increase, which may be around 2 to 4%, seems in prospect, the report states.

The total output of meat this year will register its fourth increase in a row and attain a new high, with pork output increasing the most. About 18% more hogs were slaughtered commercially in January-April than last year. Slaughter of hogs for the rest of 1955 is expected to be greater than last year, but the percentage of increase will be less than recently.

The production uptrend is slowing, however. Hog producers in six states, who had made a 20% increase over a year earlier in December-February farrowings, reported on March 1 their plans for only a 3% increase in March-May and a 2% decrease in June-August.

Warns of Mailings from Khapra Beetle Areas

STATE COLLEGE, N.M.—A warning against sending merchandising and laboratory samples of grain and seed by parcel post from khapra beetle infested properties has been received here from A. P. Messenger, chief of the California Bureau of Plant Quarantine.

Dr. R. C. Dobson, New Mexico entomologist, passed the warning along as follows:

"Unless these shipments are accompanied by a proper certificate, they are in violation of either state or federal khapra beetle quarantines.

"All officials having khapra beetle infested properties in their respective counties should notify the owners of these properties that samples must comply with the quarantine.

"Many of the envelopes used to mail samples of grain or seed have the statement: 'This is . . . not subject to terminal inspection' either printed on the envelope or in the form of a sticker. These statements must be discontinued, and each envelope should bear a certificate."

International Salt Co. Representative Dies

MINNEAPOLIS — Charles B. Bethel, 52, sales representative for the International Salt Co. and formerly western division sales manager for the Commander-Larabee Milling Co., died May 19 at Park Rapids, Minn. Mr. Bethel was a resident of Minneapolis for the past five years but had lived in Kansas City prior to that time.

Mr. Bethel was a native of Pittsburgh. He joined the Larabee Flour Mills Co., Kansas City, in 1922, remaining with that firm until 1931. He was with General Mills, Inc., from 1931 through 1945, joining Commander-Larabee in October of that year and working up through various sales capacities. He joined International Salt Co. in 1953.

Surviving is his mother, Mrs. Clara B. Bethel of Kansas City.

PRATT FOOD CO. EMPLOYEES CITED—Fifteen employees of the Pratt Food Co., Hammond, Ind., were praised by the chief of the Hammond fire department for their prompt action and bravery during the time the plant was practically surrounded by a spectacular fire May 5. The fire chief said the employee efforts were responsible for the prevention of the complete destruction of the Pratt plant and enabled the fire department to keep the fire from spreading farther into the city. Ignoring the flames and exploding chemicals from a nearby chemical plant, the group closed fire doors, manned fire extinguishers and hoses and carried valuable records to safety. As a result of their courageous efforts, Pratt was in full production the next day. Only one warehouse containing ingredients, packaging materials, promotion materials and machinery was lost to the blaze which destroyed nearby buildings. Richard Shanaman, president, Pratt Food Co., personally thanked each one of the group for their action in saving the plant at the risk of injury or death. The group consisted of: Mary Lou Horvath, Karl Mahlstedt, Harold Bush, Ken Du Fon, Ken Holt, Emil Elbers, Wayne Cooper, Nels Backlund, Henry Lessner, Roman Soleck, Henry Kekelick, Bernard Duczinski, Stanley Michaloski, George Allen and Eugene Choice.

Nopco Chemical Co. to Distribute Lipamone

KENILWORTH, N.J.—Further expansion of the distributive facilities for Lipamone by appointment of Nopco Chemical Co. of Harrison, N.J., has been announced by Henry W. Swanson, manager, agricultural division of White Laboratories, Inc., Kenilworth, N.J.

The appointment of Nopco will augment the sales coverage and services currently provided by the Ray Ewing Co., Pasadena, Cal., and the Peter Hand Foundation, Chicago.

"In-the-feed" hormonizing of market chickens and turkey fryers was made possible by the introduction of Lipamone late last year, Mr. Swanson said. This program is meeting with excellent acceptance, and the formula feed industry has been using it in volume production in recent weeks, he stated.

Cattle Production Levels Off After Record Expansion

WASHINGTON — Production of cattle in the U.S. has leveled off following its steepest expansion on record. Range and pasture conditions during the rest of the year will determine whether or not there will be a reduction in the number of cattle or the total will remain about the same. These facts are contained in the May report on the Livestock and Meat Situation put out by the U.S. Department of Agriculture.

During this tremendous expansion period from 1949 to 1955, the over-all increase in January inventories was 24% in all cattle and calves and 22% in cows. But in the last year, the gain in the total was less than 1% and in cows was insignificant. The total number of cattle in the U.S. on Jan. 1 was 48,574,000 head.

The largest increases in number of cattle have occurred during the 1949-1955 period in the Southeast and in the Delta, those increase percentages being respectively, 49.5% and 44.8%. (See accompanying chart.)

But despite the big increases in those areas, first in number of cattle on farms Jan. 1, 1955, was the central Corn Belt. The Northern Plains rank next in all cattle, followed by the Southern Plains and the Mountain West. Regions from the Great Plains west contain (in 1955) 45% of all cattle and 58% of beef cattle. The three southern regions have only 19% of all cattle and 17% of beef cattle.

Range and pasture conditions the rest of the year will have much bearing on the direction the cattle cycle will take. On April 1 range and pasture feed was poor in an area from Wyoming to West Texas. For the West as a whole, the rated range feed condition of 67% of normal was the lowest for the date since 1935.

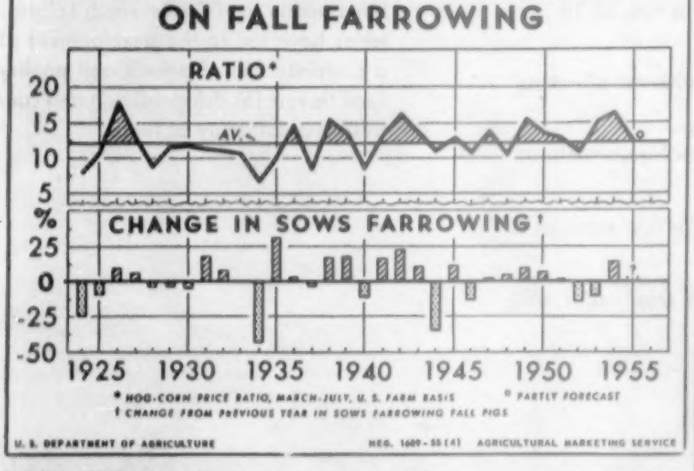
Drouth Will Force Reductions

Unless the drouth is relieved, marketings of cattle and calves from that area will again be large during the summer and early fall. A drouth catastrophe this year would certainly force considerable reduction in cattle numbers, the report says.

Trend at Standstill

Cattle production trends are virtually at a standstill, though the 10% more cows slaughtered in January-March this year than last suggests the possibility that a moderate downtrend in the cattle inventory may be commencing.

Total slaughter of cattle the remainder of the spring will probably be at least as great as last spring. About 8% more cattle were on feed in the Corn Belt April 1 this year than last. In 14 states, including three western states, the increase was 12%. The volume of feeding in each area is a new record for April.



SMALL INCREASE SEEN — On the basis of past years of comparing the influence of the hog-corn ratio on fall farrowings, a 2 to 4% increase in fall farrowings this year seems likely. The above chart shows how this ratio has affected fall farrowing in the past.

MANEY BROS.
MILL & ELEV. CO.
Minneapolis, Minnesota
Distributors in the Upper Midwest States for
SMALL'S DEHYDRATED ALFALFA MEAL

You name it . . .

Certificate of Analysis
Date
This Certifies
that we have this day analyzed sample
of dehydrated alfalfa marked
and the same was found to contain:
Protein %
Carotene expressed as Vitamin A I. U. per lb.
THE W. J. SMALL COMPANY
Division Archer-Daniels-Midland Co.
Chemist

We guarantee it!

The W. J. Small Company gives you a certified guarantee that the alfalfa meal you order matches your specifications. Behind this certification stands all the facilities of the Small Company — the largest and most complete facilities in the industry for harvesting, dehydrating, analyzing, storing and shipping dehydrated alfalfa.

And when you specify Small's Dehydrated Alfalfa Meal, you can be certain not only of its outstanding quality, but also of on-time shipment. Small's dehydrated alfalfa is stored at many strategic shipping points in order to assure you of delivery on the exact date required by your pre-arranged schedule of operations.

So play it safe — always specify Small's Dehydrated Alfalfa with absolute confidence that it will be delivered when and where you need it, and that it will measure up to your most exacting specifications.

Small's
DEHYDRATED ALFALFA MEAL

W. J. SMALL COMPANY
DIVISION
ARCHER-DANIELS-MIDLAND COMPANY
1200 Oak Street Kansas City, Missouri

Feed Production Shows Sharp Gain in Past 25 Years, Promises to Rise More

Production of manufactured feed in 1954 rose to a record high of 35 million tons—a total almost six times as great as the output in 1932 in the depths of the depression.

Furthermore, the outlook is for continued gains in the use of formula feed in the years ahead as the population grows and as the trend toward more animal agriculture continues.

Many factors have entered into the production totals shown in the accompanying graph and table. And the whole story of what is behind the figures is told in articles on some of the following pages. A relatively brief history of the industry over the past quarter century begins on page 10, and a story on the growth of animal agriculture and the increased use of manufactured feed appears in the special "Progress Report" in the center of this issue of Feedstuffs.

The feed manufacturing industry now ranks as the ninth largest manufacturing industry in the country, with a volume of more than $3½ billion a year, and it is the largest manufacturing industry serving agriculture.

But what of the future? What will the feed industry's role be in the future?

J. D. Sykes Views Future

"People in agriculture often point to the yearly increases in our population as an automatic guarantee of continued agricultural growth," J. D. Sykes points out.

However, he adds, the significant question for a feed man to ask is this: In what direction is agriculture most likely to grow?

Mr. Sykes, who is vice president of the Ralston Purina Co. and former chairman of the board of directors of the American Feed Manufacturers Assn., calls attention to the fact that the same farm resources that now produce food for 160 million persons will be called upon to produce food for 205 million persons in 20 years.

"As farm production becomes more intensified, the problem of conserving our farm resources becomes more important," he said. "As we take more from the soil, it becomes increasingly necessary that we rebuild the soil.

"Agricultural growth in the next 20 years will inevitably be centered in animal agriculture. Livestock and poultry operations alone have the peculiar ability to fulfill the two big needs of the time, the conservation of our land resources and the production of more human food.

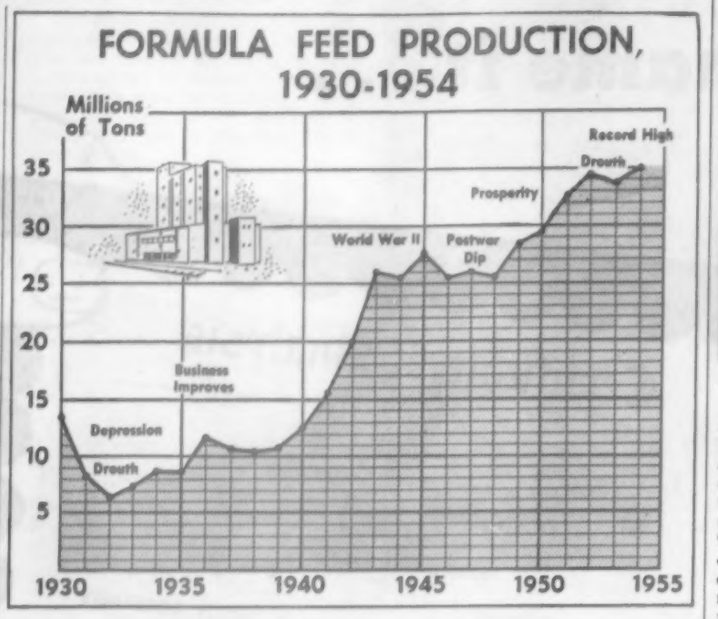
"Animal agriculture furnishes the means of rebuilding the soil while at the same time producing human food."

The trend from crop farming to livestock and poultry production is already apparent, Mr. Sykes notes. From a 50-50 balance a generation ago, it had shifted by 1954 to a 60-40 ratio in favor of animal agriculture. During the last two years alone, some 40 million acres have been taken out of crop production by government regulation. Much of this acreage is being put into the production of meat, milk and eggs.

"The feed industry's role in this changing agriculture is both obvious and challenging," Mr. Sykes said. "The industry has established itself as a major phase of agriculture by serving the general public through animal agriculture. The growth of animal agriculture on the one hand, and the feed industry on the other, is parallel and interdependent.

"During the next 20 years, feed industry research will be called upon to establish more efficient feed conversion all across the board. Feed engineers will be faced with production problems of increasing complexity. Dealers and distributors will find it more imperative to provide field services, making sure that their merchandise is being used by the feeders in the most efficient manner possible.

"The partnership of livestock and poultry farmers and the formula feed industry will face the challenge of producing human food in more abundance and with greater efficiency, while still conserving our vital land resources. The years ahead promise an era of expanding opportunity."



Estimated Breakdown of Formula Feeds

Calendar Year

	1930 mil. tons	1930 % of total	1941 mil. tons	1941 % of total	1954 mil. tons	1954 % of total
Dairy	3.8	29	3.4	23	6.4	18
Beef and sheep	0.7	5	0.9	6	1.9	5
Swine	0.8	6	1.4	9	3.6	10
Poultry	6.1	47	8.6	57	21.5	62
Horse, mule, dog and other	1.7	13	0.7	5	1.6	5
Total	13.1	100	15.0	100	35.0	100

Manufactured Feed Production

Calendar Year	Total concentrates fed*	Manufactured feeds†	Manufactured feeds as % of total concentrates fed
	(million tons)		
1930	100.8	13.1	13.0
1931	97.9	8.1	8.3
1932	107.4	6.2	5.8
1933	106.8	7.1	6.6
1934	81.9	8.7	10.6
1935	74.9	8.7	11.6
1936	91.8	11.9	13.0
1937	80.2	10.7	13.3
1938	96.8	10.2	10.5
1939	101.7	10.7	10.5
1940	102.6	12.3	12.0
1941	107.5	15.5	14.4
1942	126.0	20.0	15.9
1943	147.5	26.0	17.6
1944	130.7	25.5	19.5
1945	133.6	27.5	20.7
1946	128.1	25.5	19.9
1947	119.3	26.0	21.8
1948	111.6	25.5	22.9
1949	125.0	28.5	22.8
1950	125.9	29.1	23.1
1951	130.7	32.8	25.1
1952	128.1	34.4	26.8
1953	124.8	33.7	27.0
1954	‡127.6	35.0	27.4

*Source: "Feed Statistics," U.S. Department of Agriculture, January, 1954. Total of quarters for calendar year. Includes grains and by-product feeds fed direct or in commercially prepared feeds.

†Source: American Feed Manufacturers Assn. and T. E. Wilkins, manager, forecasting division, Ralston Purina Co.

‡Estimated.

EDITOR'S NOTE: The figures in the accompanying chart and tables were provided with the help of the American Feed Manufacturers Assn. and T. E. Wilkins, manager, forecasting division, Ralston Purina Co. The percentage figures in the one table showing manufactured feed as a per cent of the total concentrates fed are slightly lower than the percentages frequently used and used elsewhere in this issue. That is because the USDA totals of concentrates fed which are used here include the estimated amount of corn fed in silage and forage, hogged off, etc. With this grain eliminated, as often is done in figuring amounts of concentrates fed, the manufactured feed percentage for 1954, for example, would be close to 30%.

Henry P. Wilder

APPOINTED—Henry P. Wilder has been appointed district sales manager for the agricultural department of the Nopco Chemical Co. His territory includes Iowa, Kansas, Missouri, Nebraska and South Dakota. The announcement was made by Harold A. Swanson, assistant vice president of Nopco in charge of its vitamin division, of which the agricultural department is a part. Mr. Wilder, a graduate of Iowa State College, has had over 10 years' experience managing various farms and most recently served as eastern states sales manager for a Midwest chemical firm.

HENRY D. GRABER DIES

CANTON, OHIO—Henry D. Graber, president of Graber Mills, Inc., Canton, Ohio, died recently at the age of 65. Mr. Graber entered the milling business in 1934 in Canton when he purchased the Keith Milling Co. Mr. Graber is survived by a son, Robert, a partner in the Graber feed, grain, flour and farm supply firm.

USDA Defers Plan to Ask For Multiple Delivery Points

By JOHN CIPPERLY
Feedstuffs Washington Correspondent

WASHINGTON—Recent plans of the U.S. Department of Agriculture to send to Congress recommendations for legislation which would grant the Commodity Exchange Authority power to require multiple delivery points on commodities traded in on contract markets are said to have been deferred.

Commodity market opposition, even though it has not yet crystallized, has caused a temporary delay, and it is expected that before any proposals are sent to Congress that further discussions will be held between top USDA officials and representatives of three major markets.

Up to this time USDA officials in charge of the commodity exchange controls have not been too deeply impressed with opposition arguments made by contract market representatives but of course, such representations by the commodity exchanges were basically preliminary and do not constitute the case they believe can be made for slowness in moving in direction of government ordered designation of multiple delivery points.

Other Influences

Other events shadow the whole discussion and may possibly cause USDA to back away from its present plans. The administration has now before Congress two major proposals of national policy which should be taken into consideration before any effort to order multiple delivery points is pushed.

Those two major policy recommendations are the federal road building program and the national transportation policy revisions. They are interwoven and, if approved by Congress even in part, they could materially throw out of balance any multiple delivery pattern that CEA might order next year for any of the major commodities.

As things stand this week, USDA has agreed to wait until more evidence is in before going ahead with its plan to ask for this expansion of CEA authority over the commodity markets. Formal meetings of USDA officials with representatives from the contract markets will probably be held here sometime after June 1.

USDA Offers Nonfat Dry Milk for Export

WASHINGTON—The U.S. Department of Agriculture on May 18 offered 10 million pounds of Commodity Credit Corporation-owned nonfat dry milk, spray process—U.S. extra grade, for commercial export sale on a bid-and-acceptance basis.

From May, 1954, through May 11, 1955, export sales from CCC inventory have totaled 5,640,480 pounds. Uncommitted stocks of nonfat dry milk in the CCC inventory as of May 11 totaled 105,647,218 lb. The USDA has maintained export prices for its stocks of nonfat dry milk at 11.75¢ lb. for spray process and 10¢ lb. for roller process, both basis port of export, since last May.

Proposed Chicago Millfeed Futures Rules Outlined

MINNEAPOLIS—Proposed trading rules for millfeed futures, to be presented shortly to the Chicago Board of Trade for its consideration, were outlined here last week.

W. G. Catron, vice president of the B. A. Eckhart Milling Co., Chicago, chairman of a board committee which has been studying the subject, discussed the proposal at the Millers National Federation convention.

The Chicago board has had a special committee working for about a year on the possibilities of establishing a millfeed futures contract. Mr. Catron discussed the matter with the millfeed committee of the federation May 11 and later this month will confer with the Purchasing Agents Committee of the American Feed Manufacturers Assn. in Chicago. The exchange committee then will make its report to the directors who will decide whether or not to submit the proposal to the membership of the exchange for a vote on an enabling rule to establish the market.

Mr. Catron gave the following outline of the salient points of the Chicago proposal as thus far developed:

1. Standards — trading would be in two contracts providing for the bulk delivery in carload lots of—
   a. Standard Bran with Pure Bran deliverable at no differential.
   b. Standard Middlings with Gray Shorts deliverable at no differential.

2. Unit of trading—trading would be in units of 120 tons with an allowed variation of 5% over or under. Tolerance factor within allowed variation to be settled at market difference. The committee feels that four cars of bran and either three or four cars of middlings will be a practical delivery.

3. Pricing basis—prices would be in multiples of 5¢ per ton delivered Chicago protecting proportional rates East as a minimum requirement.

4. Trading limits—a daily trading limit would be provided to prohibit trading any day at prices more than $5 per ton above or below the Clearing House settlement prices on the previous day. The limit would further provide that trades may not be made during any session at prices more than $5 per ton above the lowest price during that session or more than $5 per ton below the highest price of the session.

5. Hours of trading — trading would be from 9:15 a.m. to 1:45 p.m., Chicago time. It would open with a call and close with a call. There would be continuous trading in between the calls.

6. Deliveries—deliveries would be made by Millfeed Shipping Certificate. This certificate would obligate the delivering party to stand ready to furnish millfeed covered by it within five days after loading orders are received. Shippers would be limited as to the issuance of Shipping Certificates to an amount that would permit loading within 20 calendar days of receipt of the orders and the mill would be required to use a minimum of ⅔ of its loading capacity for these Shipping Certificates.

7. Carrying charges — the party issuing Shipping Certificate would earn a carrying charge of 3⅛¢ per ton per day for each day that the millfeed is not shipped. Carrying charges would end five days after loading orders are received whether shipment has been made or not.

8. Weights—contract weights are contemplated to be any one of the following in the order named:
   a. Official shipping weights.
   b. Official unloading weights.
   c. Railroad weights.

Due to the fact that the unloading facilities will not be known, a delivering mill must always furnish either an official loading or a railroad weight, with a maximum tolerance of 5% allowed either way in the size of carload deliveries that the buyer would be required to take.

Mr. Catron asked the millers for any suggestions that they might have with regard to these rules.

MILLFEED • FEED GRAINS
FEED INGREDIENTS
What Do You Need?
—Jerry Parks
602 Board of Trade
KANSAS CITY, MISSOURI

Erwin C. Wascher Named To Honeggers' Board

FAIRBURY, ILL.—Erwin C. Wascher, vice president of the feed and milling division, has been elected to the board of directors of Honeggers' & Co., Inc., Fairbury, Ill., Sam R. Honegger, board chairman, has announced.

Mr. Wascher joined Honeggers' 10 years ago and as director of procurement and production since 1952, the firm's purchasing, traffic, production, product control, nutrition and research departments have reported to him.

Mr. Wascher grew up on the family dairy farm near Stewardson, Ill., and started his feed career in 1938 as an employee of a large farmers' cooperative in his home town. Mr. Wascher served four years in the air force during World War II, studied at the University of Hawaii and is a graduate of the Chillicothe (Mo.) Business College.

Mr. Wascher is appearing on the panel, "Feed Futurama," of the American Feed Manufacturers Association's convention in Chicago this week. He has been a well known speaker in his field on many association programs throughout the country.

Amburgo Makes Plans For "Operation Science"

PHILADELPHIA—Announcement has been made of plans for the "Operation Science" program of the 10th annual course in Animal Nutrition, Feed Formulation and Merchandising. The school, sponsored by Amburgo Co., Philadelphia, has been scheduled for Sept. 14-16.

High point of the course is expected to be the "Operation Science" program which has been expanded to a full day of the school. Among the noted nutrition and research authorities who are expected to speak this year are Dr. M. L. Scott, associate professor of animal nutrition and poultry husbandry, Cornell University; Dr. Damon Catron, professor of animal husbandry, Iowa State College; Dr. Leonard Dansky, D. A. Stickell & Sons, Hagerstown, Md.; Dr. E. I. Robertson, director of nutrition, John W. Eshelman & Sons, Lancaster, Pa., and others.

Heading the panel will be Harvey E. Yantis, editor of Feedstuffs. The course will be held in the Bellevue Stratford Hotel.

Peavey Vice President, Harry B. Stoker, Dies

MINNEAPOLIS—Harry B. Stoker, 58, a vice president and director of F. H. Peavey & Co., Minneapolis, died May 18.

Mr. Stoker was also a vice president and director of Van Dusen Harrington Co., Minneapolis.

A resident of Duluth, Minn., during most of his life, Mr. Stoker was a past president of the Duluth Board of Trade and formerly was vice president and general manager of Globe Elevators, a division of F. H. Peavey & Co. He moved to Minneapolis four years ago.

Surviving are his widow, Julie, and a son, Harry B., Jr., Duluth.

Veterinarian-Feed Trade Relations Discussed at Kansas City Meeting

KANSAS CITY—Another step in the trend towards a mutual understanding between the feed industry and the veterinary medicine profession occurred here May 17. Representatives of the feed manufacturing industry were guests of the Kansas City Veterinary Medicine Assn. at a meeting which featured the topic, "Fighting Livestock Disease Together."

The speaker was Dr. Morris Erdheim, Dawe's Laboratories, Inc., Chicago, who until about two years ago was a practicing veterinarian himself. It was the first time the Kansas City veterinarians had issued an invitation to feed manufacturers to get together and discuss mutual problems. This trend has been pronounced in recent months with one of the most successful joint meetings occurring at the University of Nebraska last winter. The Nebraska veterinarians' conference and the Nebraska Formula Feed Conference took place at the university on successive days and the doctors and feed men sat in on both sessions.

As a former veterinarian now dealing in products for the feed industry, Dr. Erdheim was in a position to make some interesting observations. He was followed by Elmer Modeer, Staley Milling Co., Kansas City, who discussed the problem from the feed manufacturers' standpoint. A lively open discussion concluded the meeting.

The swing to medicated feeds in the past six years has been an alarming development to the veterinary profession, Dr. Erdheim declared. The feed industry in most instances was not anxious to enter the field and there is evidence that complacency on the part of veterinarians.

(Continued on page 174)

MIXERS' *Pulverized* OATS

A competitively priced grade that has a record for improving the quality of mixed feeds. Mixers' Pulverized Oats is also available in pelleted form. Ask for samples and prices.

Send for samples and prices today
Mixed Cars shipped at straight car prices
Our Teletype number is MP 477

TOWER BRAND ROLLED OATS (Steam processed)
ACE BRAND ROLLED OATS (Steam processed)
WHOLE OAT GROATS
STEEL CUT OAT GROATS
BOLTED OAT FLOUR
GLENWOOD FEEDING OAT MEAL
FALCON BRAND PULVERIZED WHITE OATS
STANDARD BRAND PULVERIZED WHITE OATS
DAIRY BRAND COARSE GROUND OATS
STAR BRAND PULVERIZED MIXED FEED OATS
TRI-GRAIN PELLETS (Wheat - Corn - Oats)
ENERGEE PULVERIZED OATS
MIXERS' PULVERIZED OATS
MIXERS' COARSE GROUND WHITE OATS
MIXERS' PELLETED OATS
APEX BRAND CRIMPED WHITE OATS
OAT FEED
STEAM ROLLED WHOLE BARLEY
GROUND BARLEY
PEARLED BARLEY FLAKES (Max. 2½% fiber) (steam rolled)
GLENWOOD PEARLED BARLEY
STAR CRACKED PEARLED BARLEY
STEEL CUT WHEAT

Millers TO THE FEED TRADE

FRUEN MILLING COMPANY
MINNEAPOLIS 5, MINNESOTA

Feedstuffs Use Hits Five-Year Low for First Half of Season

MINNEAPOLIS — Consumption of feedstuffs during the first half of the 1954-55 season totaled 8.4 million tons, the smallest amount for that period in five years, even though livestock numbers increased.

This combination of less feed and more livestock brought the consumption per animal unit well below last season. These facts are contained in the May feed market summary published by the U.S. Department of Agriculture's Marketing Service.

Consumption of all commercial feedstuffs October, 1954, through March, 1955, dropped 5% to 8,416,400 tons. This compares with 8,890,200 tons for the same period last season and 9,457,300 tons, the record for those months set in 1951-52.

The number of grain-consuming animal units to be fed during the current season is estimated at 173.8 million. This compares with 168.4 million last season and the five-year average, and 174.1 million in 1951-52. On the basis of these figures, 96.9 lb. of feed were fed per animal unit the first half of this season compared with 105.6 lb. last season, 108.6 the first half of 1951-52 and 103.9 lb. the five-year average.

Consumption of oilseed meals for the first six months of the season amounted to 4,610,800 tons. This is 421,900 tons less than in the same months last season and the smallest since 1949-50.

Consumption of soybean meal, at 2,668,100 tons, was only slightly less than last year but 347,000 tons below the average of the three previous seasons. Disappearance of cottonseed meal at 1,557,300 tons was about 370,000 tons less than last season while the use of linseed meal increased by about 5,000 tons to 282,000 tons. Consumption of copra meal was about 7,000 tons smaller while the use of peanut meal was less than a third the same months a year earlier.

Exports of oilseed meals, principally of soybean meal, increased sharply and totaled 269,476 tons the first half of the season compared with 83,137 tons the same months a year earlier. Imports during these months totaled 45,894 tons this season as against 83,243 last season.

Consumption of grain by-products feeds totaled 3,194,600 tons the first half of the season. This was about 50,000 tons below the same period a year ago, due principally to smaller supplies of rice millfeeds. Disappearance of wheat millfeeds at 2,350,800 tons was only slightly below last season while the output of gluten feed and meal at 505,100 tons was cut about 35,000 tons.

With sharply reduced rice milling supplies of rice millfeeds totaled 106,600 tons and were 62,500 tons below the previous year. With large quantities of rice being milled for the Commodity Credit Corp., supplies of rice millfeeds the remainder of the season are expected to be sharply above last year.

Alfalfa meal shipments totaled 526,200 tons the first half of the feeding season. This was slightly above last year.

HATCHERY REPORT

(Continued from page 1)

of chicks placed in 13 principal broiler areas, the indicated number of chicks hatched for broilers was 4% larger than in April last year. The number hatched for flock replacement was 19% smaller.

For January-April, the total number of chicks hatched was 795,833,000 —off 16% from the 1954 total. The number of chicks hatched for broilers was indicated to be 1% smaller than during the same months last year, while the number hatched for flock replacement was down 25% for the four-month period.

Further increases in broiler chick placements in the first weeks of May also have been indicated in other reports. (See table on page 174.)

Following up the reduction from a year earlier in the April hatch, a slightly smaller May hatch also was in prospect. However, the percentage drop was expected to be small. The number of eggs in incubators on May 1 was 2% less than a year earlier.

The reductions in eggs set continue to be in states that produce most of the chicks for egg production, USDA points out. The demand for chicks for broiler production continues strong.

Percentage changes from a year earlier in May 1 numbers of eggs in incubators were: New England, up 8%; middle Atlantic states, down 3%; east north central states, down 7%; west north central region, down 9%; south Atlantic states, up 9%; east south central, up 4%; west south central, down 1%; mountain states, down 11%; Pacific Coast, down 6%.

These figures indicate that the May hatch for flock replacement will still be below a year ago, but the percentage drop will not be as great as it was. The hatch, compared with a year earlier, apparently is picking up somewhat.

However, the main part of the hatching season is just about over.

BETTER FEEDS THROUGH CHEMICAL PROGRESS

"A Better America Through Chemical Progress" was the theme of the second Chemical Progress Week sponsored by the Manufacturing Chemists Assn., May 16-21. And among the most important accomplishments of the chemical industry has been the production of vitamins, drugs, antibiotics and other materials for use in feeds. All of these various materials have made it possible to make more efficient feeds more economically. These potent micro-ingredients, boosting growth and production and helping to prevent disease, have played an important part in the manufacture of today's precision feeds, and they have been responsible for a great deal of the improvement in feed performance. In fact, a panel of experts has selected the development of chemical compounds for feeds as one of the 10 top chemical developments of significance to the consumers of the nation. And it is through the feed industry that these chemical developments have been put to work for farmers and consumers.

Another Drop Reported in Poult Output

WASHINGTON — There was a further indication this week of improved returns in 1955 for turkey producers. But at the same time, the report showed the reduced market this year for turkey feed.

U.S. Department of Agriculture officials had feared earlier this year that turkey growers would raise as many or more than the record number of birds produced in 1954. And warnings were issued against overproduction of heavy-breed birds in particular. (See table on page 173.)

The U.S. Department of Agriculture hatchery report this week showed, however, that production of heavy breed poults was down again in April as compared with a year earlier. The sharp reduction in hatchings of light breed poults also continued.

The number of heavy breed poults hatched during April was off 9% from a year earlier, and for the first four months of the year, the hatch was down 13%.

However, for May, one of the main hatching months, it appeared that the decline would be reversed and that the number of heavy breed poults hatched would be up somewhat from a year ago.

The number of heavy breed poults hatched in April was 12,635,000, compared with 13,855,000 in April last year. The number hatched during the first four months was 24,127,000, compared with 27,815,000 in the same period of 1954.

Light breed turkeys hatched during April totaled 1,717,000—down 27% from a year earlier. The number of light breed turkeys hatched January-April totaled 5,213,000—representing a decrease of 32% from a year earlier.

The number of heavy breed eggs in incubators on May 1 was slightly more than 1% above the total in incubators on May 1 last year. The number of light breed eggs in incubators on May 1 was 31% less than a year earlier.

CONVENTION

(Continued from page 1)

May 27. The Morrison Hotel will be headquarters.

The hospitalization of Leo Cherne, Research Institute of America, has made necessary a change in the AFMA program. In his place George M. Rideout, a well known economist, will speak on "The Business Outlook." Mr. Rideout is a vice president of Babson's Reports, Wellesley Hills, Mass. His talk is scheduled for the morning of May 27.

B. D. Eddie, Superior Feed Mills, Inc., program committee chairman, said Mr. Rideout has been associated with Babson for nearly 15 years and is a close observer of business and market conditions and national and international developments.

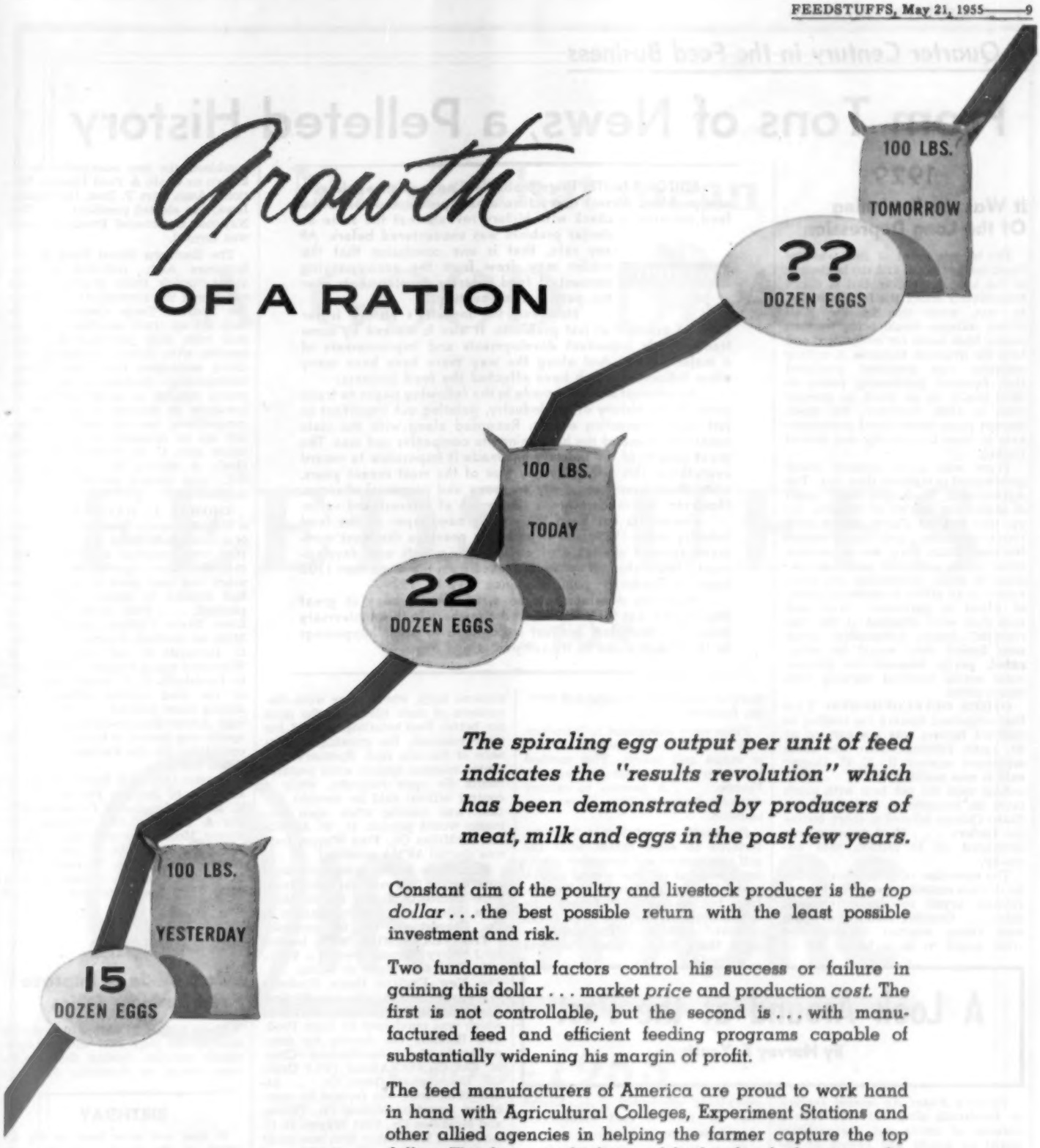
In addition to thorough discussions of feed manufacturing and distribution problems by well known speakers, a panel entitled "Feed Futurama" will delve into such problems as nutrition research efficiency results, service to the customer, production techniques, automation, high quality and low cost, personnel, management and managerial training.

DANCE TIME—It was an evening of relaxation for Chicago Feed Club members at their first dinner dance held at the Furniture Club in Chicago on the evening of May 6. Guests took time out to pose for their pictures. Left, above are shown (from the left): Mrs. Robert Sutton; Robert Sutton, International Minerals & Chemical Corp.; E. M. Ellis, Hales & Hunter Co.; Mrs. Ellis; Joe Bozis, International Minerals & Chemical Corp., and Mrs. Bozis. Center, above: Mrs. Paul Q. Card and Paul Q. Card, Taste Engineering, Inc. Right, above: David D. McClintock, National Container Corp., and Mrs. McClintock. Lower left: John R. Scheetz, New Century Co.; Mrs. Richard Furman; Mrs. Scheetz, and Richard Furman, J-M Trading Corp. Center, below: Joe Manasse, Werthan Bag Corp.; William N. Brock, Chase Bag Co., and F. M. Becker, Farm Bureau Milling Co., Hammond, Ind. Lower right: David Bone, Quaker Oats Co., and Mrs. Bone. Handling the camera was Truman Fowler.

Swift Plans Open House For Des Moines Plant

DES MOINES, IOWA — Swift & Co. has scheduled an open house May 27 at its new soybean plant and feed mill at 1935 E. Euclid Ave., Des Moines. Hours have been set from 10 a.m. to 4 p.m.

Growth OF A RATION



The spiraling egg output per unit of feed indicates the "results revolution" which has been demonstrated by producers of meat, milk and eggs in the past few years.

Constant aim of the poultry and livestock producer is the *top dollar* . . . the best possible return with the least possible investment and risk.

Two fundamental factors control his success or failure in gaining this dollar . . . market *price* and production *cost.* The first is not controllable, but the second is . . . with manufactured feed and efficient feeding programs capable of substantially widening his margin of profit.

The feed manufacturers of America are proud to work hand in hand with Agricultural Colleges, Experiment Stations and other allied agencies in helping the farmer capture the top dollar. This brings a higher and higher level of nutrition for all of the Nation.

AMERICAN FEED MANUFACTURERS ASSOCIATION, Inc.

AMERICAN FEED MANUFACTURERS ASSOCIATION, INC.

53 WEST JACKSON BOULEVARD, CHICAGO 4, ILLINOIS

Speaking for the makers of 28 Million Tons of Feed*

* AFMA Members were responsible for the production of better than 75% of the 35 million tons of feed manufactured in 1954 in the United States.

A Quarter Century in the Feed Business

From Tons of News, a Pelleted History

EDITOR'S NOTE: There probably is no problem as old as a new problem. Almost every time a new problem arises in the feed industry, a check with history reveals that the same or similar problem was encountered before. At any rate, that is one conclusion that the reader may draw from the accompanying account of feed industry developments over the past quarter century.

However, the industry's history is far from an account of just problems. It also is marked by some tremendously important developments and improvements of a major nature. And along the way there have been many other influences which have affected the feed business.

An attempt has been made in the following pages to trace some of the history of the industry, pointing out important or just plain interesting events. Recorded along with the main events are some of the happenings to companies and men. The great growth of the industry has made it impossible to record everything. This is particularly true of the most recent years, when there have been many company and personnel changes. However, the reader should find much of interest and value.

Feedstuffs has been the weekly newspaper of the feed industry since 1929, and it probably provides the most complete account available of all industry events and developments. This historical account is taken from the more than 1300 issues of Feedstuffs published since May 18, 1929.

Nutrition developments have, of course, been of great importance, but they are covered elsewhere in this anniversary issue. This historical account is confined to other happenings to the industry and to its companies and men.

1929

It Was the Beginning Of the Long Depression

The biggest event of 1929 was the stock market crash and the beginning of the long depression. But it didn't immediately affect the feed business. In fact, some thought the Wall Street collapse would bring western money back home for investment and help the livestock business. A milling company vice president predicted that farmers' purchasing power in 1930 would be as great or greater than in 1929. However, the stock market panic demoralized grain markets at least temporarily and slowed trading.

There was great concern about government in business then, too. The Agricultural Marketing Act, aimed at improving the lot of farmers, set up the Federal Farm Board with broad authority, and the Farmers National Grain Corp. was organized, being given extensive power to engage in grain purchasing and marketing in an effort to stabilize prices, of wheat in particular. Grain and feed men were alarmed at the "socialistic" trend; independent grain men feared they would be eliminated, partly because the government set-up involved working with cooperatives.

OTHER DEVELOPMENTS: The first organized market for trading in millfeed futures was inaugurated at St. Louis, although there was some sentiment against it, E. C. Dreyer said it was worth a trial. . . . Many college men did not look with much favor on commercial feed, but Iowa State College offered a short course for feeders. . . . Feed tonnage was estimated at 10 million tons annually.

The extension of long term credits by dealers caused concern, and many persons urged restriction to cash sales. . . . Growing numbers of chain feed stores worried dealers, who were urged to do a better job of merchandising and advising and serving farmers.

Plans were announced to introduce into the U.S. the production of feed in cubes and pellets. This method had been very popular for years in Europe. . . . A process to extract vitamins from cod liver oil was announced.

Feedstuffs reported that "rain interfered to some extent with the golf tournament and horseshoe pitching contest at the 21st annual AFMA convention at French Lick Springs, Ind., but it failed to dampen the enthusiasm of the 275 who were present." Aside from the entertainment there were two-hour business sessions daily, where there were discussions of such things as the need for better feed retailing, a need for more research, the growing importance of formula feed. Speakers presented reasons against some requirements for open formulas, while a control official said he thought the time was coming when open formulas would prevail. D. W. McMillen, McMillen Co., Fort Wayne, Ind., was elected AFMA president.

Many flour milling companies were entering the feed manufacturing business—Hubbard Milling Co. of Mankato, Minn., and Schultz, Baujan & Co., Beardstown, Ill., for example.

TEN TEXAS MILL MEN, headed by J. Perry Burrus, erected a $250,000 mixed feed plant at Dallas. . . . The New England Grain Products Co. was formed to take over 18 New England grain companies, control of which was purchased by Corn Products Refining Co. Among the companies in the consolidations—Chas. M. Cox Co., St. Albans (Vt.) Grain Co., Cunningham Grain Co. . . . Allied Mills, Inc., was formed by combining American Milling Co., Peoria, and McMillen Co., Fort Wayne. H. G. Atwood of the former firm was made chairman, and D. W. McMillen of the latter became president. . . . Larrowe Milling Co., Detroit, became a unit of General Mills.

Soybean production was increasing, and it was predicted that soybean crushing would expand. For example, the Shellabarger Grain Products Co. at Peoria was organized to process soybeans.

The Carnation Milk Products Co. and Albers Bros. Milling Co. on the West Coast were merged. . . . Ralston Purina bought Caledonia Mills, St. Johnsbury, Vt. . . . The Missouri Farmers Assn. built a mill at Springfield, Mo. . . . Many firms were expanding their feed operations—like Superior Feed Mills, Oklahoma City; Ralston Purina Co., including manufacture of dog, fox and monkey feed; International Sugar Feed Co., Minneapolis; Larrowe Milling Co., Detroit; Nutrena Feed Mills, Kansas City; Statesville (N.C.) Flour Mills Co.; Quisenberry Feed Manufacturing Co., Kansas City; Pillsbury Mills, Inc.

The Grain Dealers National Assn. and the U.S. Feed Distributors Assn. combined, the new association to be known as Grain & Feed Dealers National Assn. Bert T. Bow, Davenport, Iowa, was elected president. . . . The National Cottonseed Products Assn. was formed.

The Southern Mixed Feed Manufacturers Assn. reflected concern about "unfair trade practices" and considered the advisability of asking the Federal Trade Commission to help set up trade practice rules, to deal with such problems as interference with others' contracts, enticing employees from competitors, misbranding, trademark imitation, secret rebates or secret special allowances to dealers, defamation of competitors, use of feed materials not up to standard, sale of feeds below cost. C. B. Fretwell, Spartan Grain & Milling Co., Spartanburg, S.C., was elected president of the association.

THOMAS L. DANIELS resigned a U.S. diplomatic post to rejoin Archer-Daniels-Midland Co. . . . E. T. Hall, vice president of Ralston Purina, retired at age 45, saying the years had been good to him and he had decided to retire earlier than planned. . . . Prof. John Evvard of Iowa State College joined Allied Mills as research director. . . . Prof. G. Bohstedt of the University of Wisconsin was a frequent contributor to Feedstuffs. L. E. Bopst, secretary of the feed control officials, was among other authors. . . . W. G. Kellogg, Archer-Daniels-Midland, Minneapolis, was named to head marketing operations for the Farmers National Grain Corp.

Deaths: George R. Robinson, one of founders of Ralston Purina Co.; J. K. Mullen, founder of Colorado Milling & Elevator Co.; Benjamin C. Moore, Moore-Seaver Grain Co., Kansas City; Leslie M. Wilson, Tioga-Empire Feed Mills, Waverly, N.Y.; E. C. Andrews, Sr., Always-A-Head Mills, St. Louis, pioneer in feed milling.

v v

1930

Effort Made to Improve Feed Business Ethics

Many people in agriculture circles entered the year 1930 with an optimistic outlook, feeling that conditions would be favorable for live-

A Look Around at the Past

By Harvey E. Yantis

Editor's Note: An annual feature in Feedstuffs since 1934 has been a column of trivia and personalities based on gossip and events at the conventions of the American Feed Manufacturers Assn. Rereading of these columns brings back the atmosphere of the meetings and memories of friends and incidents. The following are excerpts chosen from the 20 yearly columns that have been published.

v v

1934—FRENCH LICK

The French Lick Springs Hotel received a break when the convention dates were set between the Memorial Day holiday and a week-end . . . Many of the manufacturers arrived Tuesday and stayed until Sunday . . . It doesn't take the hotel long to cut down on its overhead . . . The day after the convention closed only three bellboys were on duty, and it was a long time between buckets of ice . . . Doc Hawley, Quaker Oats Co., Memphis, is as skillful a waiter as he is a horseman. . . . He took over the counter at a little French Lick restaurant one night when the proprietor obviously was rattled by the sudden rush of business, and handled everything efficiently . . . Except that he insisted that hamburgers should have garlic in them.

Virgil Ferneau, of Dewey Bros. Co., Blanchester, Ohio, was medalist in the qualifying round of the golf tournament with a gross 75, but went over 80 in the tournament itself. . . . Max Nowak, Nowak Milling Corp., Hammond, Ind., said he contemplated offering a barrel of whisky as a blind bogey prize at the convention next year. . . . Someone suggested that he stipulate that it had to be won three times before the winner could keep it . . . There was a pronounced lack of bullishness among the feed men at French Lick, despite the drouth and the booming grain markets . . . The consensus seemed to be that the market was little more than a bet on whether it would rain or not, and most of them thought it would . . . A. C. Palmer, Tioga-Empire Feed Mills, Inc., Waverly, N.Y., is a veteran member of the association, but had missed its meetings for several years until 1933 . . . During the past year he has been one of its most helpful advisors . . . J. A. McConnell, Cooperative G.L.F. Mills, Inc., Buffalo,

(Continued on page 54)

BIRTHDAY

It may not have been as big an event as the stock market crash, but Feedstuffs entered the feed world in 1929—on May 18, to be exact.

The first editorial said: "The feedingstuffs industry has grown almost overnight into a giant trade. Where formerly the feeder used whatever was on the place and most convenient, he now brings much of his own produce to market and takes back home with him something in a sack which gives the animal a better breakfast and returns more profit to its owner.

"All about the country are great mills and little mills serving this new demand for scientifically prepared feeds through thousands of dealers. Already the industry does hundreds of millions of dollars of business every year, and the volume is growing from day to day.

"It is the hope of Feedstuffs to serve this great and growing trade . . . Its whole job is feedstuffs, feedstuffs, FEEDSTUFFS."

In 1955 and in the future, we will continue to try to do the same job.—The Editors.

Names that mean

A GOOD DEAL

FEEDSTUFFS

1929-1955

WIRTHMORE®

1903-1955

WIRTHMORE FEEDS
POULTRY - DAIRY - STOCK

Charles M. Cox Company
177 Milk Street
Boston, Massachusetts

stock. A little later, however, USDA warned that the livestock outlook was generally only fair. But the depression took hold of agriculture, too. And by late in the year, Feedstuffs was carrying such headlines as "Hog Prices Decline to New Low Levels" and "Lowest Egg Prices in 30 Years Recorded." Eggs got down around 13 or 14¢.

The problem of government in business continued, too, and grain men were calling for repeal of the farm act, with its provision for government operations in the grain business.

Meanwhile, the feed industry was not too much disturbed by the Federal Farm Board Activities, which dealt mostly with wheat.

There were drouth relief programs in 1930, too. Credit facilities were organized, and reduced emergency freight rates were ordered for relief shipments of feedstuffs. In most cases, the local feed merchants served as local distributors. When the emergency drouth rates ended, the feed trade welcomed the action since it was felt that the reductions were generally harmful to business and few farmers received rail benefit.

THE FEED TRADE had another problem relating to freight rates, also. It was announced that, in a new rate set-up, regulations would abolish application of proportional rates or transit balance on mixed feeds containing other than direct products of grain. Later, it was announced that application of the new rates would be postponed.

There was increasing sentiment in favor of efforts to improve business ethics and eliminate such evils as long-time bookings, guarantees against price declines and rebates. Various associations were active in the efforts, and some 200 feed manufacturers approved a plan to curtail speculation and put the industry on a sounder merchandising basis. Under the plan, no sales were to be made for shipment beyond 60 days unless a carrying charge was added for a certain limited extension; no sales were to be made with prices guaranteed against decline; and no sales were to be repriced or the contract rewritten.

The Southern Mixed Feed Manufacturers Assn. attempt to cooperate with FTC on trade rules was unsatisfactory, so the group adopted its own code of ethics. E. Wilkinson, Birmingham, was elected president of the association.

Further action was taken to begin production of feed in pelleted form. Plans were announced to make pelleting machinery. A. B. Schreiber of St. Joseph, Mo., who announced that he held patents on the article and the process rather than on the machinery, said one advantage of the process was that as much as 50% of molasses could be added to the feed and that the "nutlet" form would "flow from a sack as freely as hickory nuts, regardless of the weather. . . ."

Meanwhile, independent feed dealers were urged to adopt good business practices and establish themselves so that they could compete with chain feed stores. David Steenbergh of the Central Retail Feed Assn. said dealers' poor business methods included too much credit, price cutting, too much free service, and that the industry needed a code of ethics.

THE NEW SOYBEAN processing industry was growing, and about 20 mills were operating. The 1930 domestic bean crop was up to 12 million bushels. . . . Feedstuffs conducted a campaign against rats in feed mills. . . . Buffalo was hailed as the largest feed milling center.

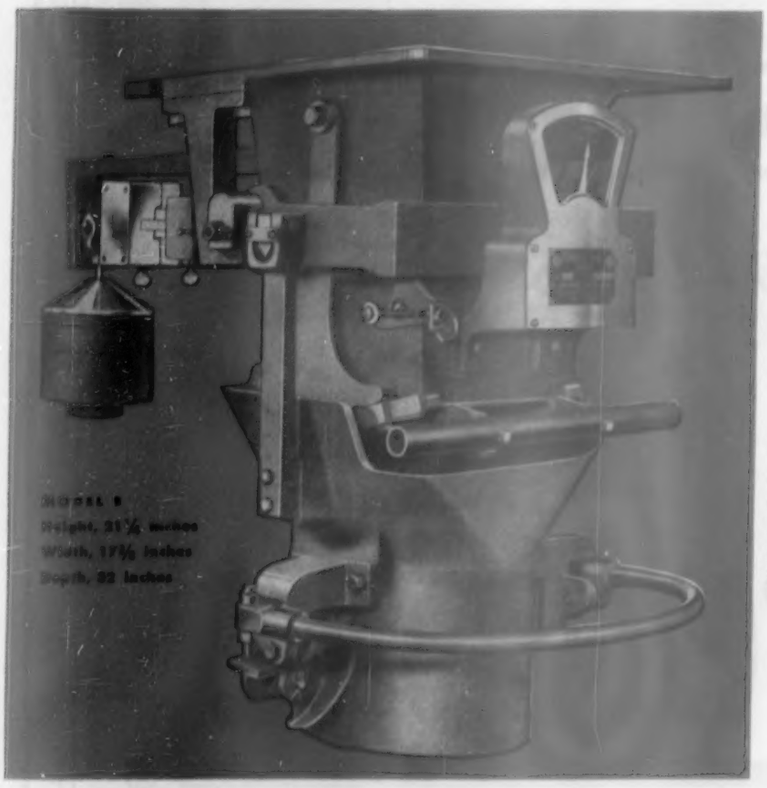
Seven Omaha and Council Bluffs feed mills merged under the leadership of Raven Mfg. Co. and Honey Dew Mills. . . . Purina dedicated new units at Denver. . . . Gold Medal feeds were included among products distributed in the Northeast by Washburn Crosby Co. . . . Sargent & Co., Des Moines, boosted its capacity, as did the Washington Coop Egg & Poultry Assn. at Seattle. . . . Sperry Flour Co. built a feed mill at Ogden, Utah, and Gooch Milling & Elevator Co. built one at Lincoln, Neb. . . . Arcady Farms Milling Co. added to its Chicago plant. . . . Vitality Mills took over the mixed feed business of Ladish Milling Co., Milwaukee. . . . The G.L.F. closed its Peoria plant following the construction of a new plant at Buffalo.

Purina bought a soybean mill at

FARMACEUTICALS . . .

Specifide's Word for Their

"Fine Chemicals for Fine Feeds"



IT'S

IN THE BAG

In Seconds!

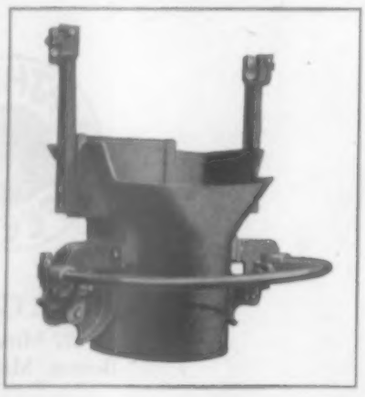
Fast, accurate, semi-automatic filling and weighing equipment for cotton, burlap or paper bags, including Multiwalls. Capacity from 25 to 200 pounds.

IMPROVED EUREKA O. K. BAGGING SCALE

combines filling and weighing into one simplified, semi-automatic operation

Speed, accuracy and economy highlight the performance of the new improved Eureka O.K. Bagging Scale, Model B. Production per man-hour is increased by a newly designed bag clamp which, in one slip-on motion, attaches bag securely and releases automatically at a touch of a lever.

For economy, optional portable accessories are available: a tubular supporting frame mounted on easy-roll casters allows movement of Scale from one location to another; or the O.K. Scale Holder, an accessory which is permanently affixed to bins — one O.K. Scale may be used to serve them all. No bolting or unbolting for attachment or removal is necessary.



Please write for Bulletin 502

● Cast iron bag bell and bag clamp shown at right (standard on Model B) is interchangeable on present Model A O.K. Bagging Scales originally equipped with sheet metal bag bell and rubberized ring. Model A is designed for cotton or burlap bags only. Specifications are the same except for bag bell and clamp.

EUREKA

S. HOWES CO., INC. *SINCE 1856*

SILVER CREEK, N. Y. • LONDON, ENGLAND

NEW

Wisconsin-Grown

NITRAGREEN

Dehydrated

ALFALFA MEAL

CUTS FREIGHT COSTS

IN GREAT LAKES AREA

You don't have to pay freight all the way from the West. Feed dealers, manufacturers and formulators in the Great Lakes area can now get NITRAGREEN—a new high-quality dehydrated alfalfa meal—direct from the dryer only 30 miles west of Milwaukee, Wisconsin. NITRAGREEN quality is fully backed by constant testing in our own laboratories, the largest of their kind. Wherever you are, you can be sure of quick service when you order NITRAGREEN dehydrated alfalfa meal. Write, wire, or phone our Milwaukee office: Hilltop 2-6800.

Dehydrating & Grinding Div.

The NITRAGIN COMPANY, Inc.

3313 W. Custer Ave., Milwaukee, Wis.

SCROGGINS GRAIN CO.

Phone: BR 3913 — Teletype: MP 344

WHOLE *and* GROUND GRAINS *and* SCREENINGS

MINNEAPOLIS, MINNESOTA

Grow with Kent

KENT
THE FEED WITHOUT A FILLER
FEEDS

One of the fastest growing feed companies in the Midwest

Kent has found the combination . . .

PROGRESSIVE BEEF, HOG AND POULTRY FEEDING PROGRAMS

made possible by high-quality Kent Feeds that cost no more than ordinary feeds, are getting amazing results for Kent feeders. Results that keep the Kent feeder sold and start him talking to his neighbors about Kent.

Top show winners prove value of Kent programs

No wonder Kent is the most talked about feed in the Midwest. Last year Kent feeders won most of the top prizes in Midwest show rings. For example:

- **Grand Champion Steer—1954 International**
- **Grand Champion Hog Carlot—1954 International**
- **1954 Iowa and Wisconsin State Fair Grand Champion Baby Beeves**
- **Nearly a hundred Grand Champions in 1954 Cornbelt Shows**

KENT FEEDS win in the show ring and in the feedlot both.

MR. DEALER: You can profit too!

Be a Kent dealer. Sell the feeding programs and furnish the feed that makes beef, hog and poultry raising more profitable than ever before—**KENT.**

KENT'S PHENOMENAL GROWTH

and continuing rapid sales increases show that there is still plenty of opportunity for dealers to get on the Kent bandwagon and profit.

Grow with Kent . . . . leader in this growing industry

KENT FEEDS
"THE FEED WITHOUT A FILLER"
KENT FEEDS

Muscatine, Iowa • Sioux City, Iowa

What a Whale of a Difference!

THERE, MR. BANKER, IS A COMPLETE STATEMENT OF MY ASSETS, LIABILITIES INVOICE OF STOCK HOME, TAXES— AND OF COURSE YOU KNOW MY CHARACTER
INCOMPLETE, I'D SAY, MR. BLANK, I MUST KNOW WHAT YOUR GOLF IS LIKE, YOUR CHURCH AFFILIATION YOUR ANCESTORS AND THE CONTENTS OF YOUR CELLAR!
OH, THAT'S ALL RIGHT! ALL Y'WANT — WHAT DID YOU SAY YOUR NAME IS?
SAY, I WANT A FEW TRUCK LOADS of FEED —YOU'LL HAVE TO TRUST ME!
BORROWING FROM A BANKER AND—
BORROWING FROM A FEEDMAN

AN EASY MARK—Many feed men nowadays are accused of being too easy with credit and financing for feeders. But that apparently is nothing new. A look at this cartoon from the Aug. 13, 1932, issue of Feedstuffs indicates that there were problems of loose credit more than 23 years ago, too.

Lafayette, Ind., in order to make its own soybean meal. . . . A survey showed 20 active feed manufacturing units in Kansas City, making 921,000 tons of feed in 1929. . . . A. B. Schreiber sold his Minneapolis plant to Nutrena Feed Mills. . . . MFA started feed milling on a large scale at Springfield, Mo., after completion of its new plant. . . . United By-Products Co. opened a 500-ton plant in Kansas City. . . . The Chicago Board of Trade dedicated its new building.

At the AFMA convention at French Lick, President D. W. McMillen noted better cooperation with institutions of learning and the need for better education of farmers. The AFMA banquet was attended by 250 persons. At the start of the convention it was announced that the convention could be handled without interference with the golf games, thus mixing "pleasure of a health-building sort with business."

The National Soybean Oil Manufacturers Assn. was organized under a committee headed by Whitney Eastman of Milwaukee, who was elected secretary. . . . The Midwest Feed Manufacturers Assn. (not the same as the present organization) was organized at a Kansas City meeting called through the efforts of Van Roy Miller, Nutrena. O. M. Straube, Nutrena, was elected president. . . . . The Grain & Feed Dealers National Assn. called for repeal of the farm act. Hugh A. Butler, Omaha, was elected president. . . . A plea for uniformity in feed regulations and their enforcement was made at the control officials' meeting in Washington by D. W. McMillen.

JAMES G. MUNRO was named assistant to Searle Mowat of Larrowe, Detroit. . . . R. M. Bethke of the Ohio Experiment Station and F. B. Morrison of Cornell were among Feedstuffs' authors. . . . J. P. Parks of Kansas City opened a Buffalo branch of his brokerage business. . . . C. N. Barrett of Northrup, King was elected first president of the new Northwest Feed Manufacturers Assn. . . . L. S. Riford, Beacon Milling Co., headed the North Atlantic States Feed Manufacturers Assn.

Ralston Purina advertised the "things you can't see in a feed." It said the "tag lists ingredients but not what kind." The tag, the ad pointed out, didn't tell whether the feed contained moisture filled grains or kiln-dried grains, worthless cod liver oil or good cod liver oil, trash-filled feed or triple cleaned feed.

Deaths — James Lawrence, Raymond Bag Co.; Jackson M. Crump, Memphis; Burton F. Hales, Chicago; James M. Sheets, head of G. E. Conkey Co.; Charles W. Lonsdale, Sliminds - Shields - Lonsdale Grain Co., Kansas City.

v v

1931

Eggs Sell for 10c Doz. And Hogs for $3 Cwt.

The depression continued to be the main concern in 1931. At the start of the year, some people looked for gradual recovery in agriculture, with better conditions by the latter part of the year.

In the first few months, headlines told of "the lowest farm prices since 1910" and "farm price of eggs down to 10 and 12¢."

At the AFMA convention in May, it was thought that "business skies probably are showing signs of clearing," but the feed men were cautioned to "keep the umbrella of conservatism close by until the sun shines through." W. E. Suits, Quaker Oats Co., chairman of the AFMA executive committee, said the industrial depression actually started in July, 1929 (before the stock market crash) and had continued for nearly two years, with declining commodity markets, a seriously reduced demand for poultry and dairy products, and a sharp decline in demand for balanced rations.

In the fall, some increases in commodity prices were noted, but again late in the year the news told of hog prices down almost to 3¢ lb. and milk prices to farmers of 80¢@$1 cwt. However, the egg-feed price ratio was better, and some people thought the general business outlook was improved again.

TROUBLES with the Federal Farm Board continued to plague the trade. . . . In one convention discussion of government interference with business, J. E. Sams, Blatchford Calf Meal Co., said the current trends were similar to those of the Soviet government and would bring back a feudal system to industry.

A modified ICC order granted the grain products freight rate to all mixed feeds and allowed feed manufacturers the same transit privileges given to flour millers.

BY-PRODUCT FEED prices continued to drop. In May, typical prices included: Kansas City standard bran, $10.50; St. Paul steamed bone meal, $30; Chicago dried buttermilk, 3¢ lb.; New York molasses, 4¾¢ gal.; Chicago soybean meal, $27; Des Moines, 20% pig feed, $43.

The AFMA membership declined to 151. The new AFMA president was Edward Drescher, Alfocorn Milling Co., St. Louis.

The broiler turkey was introduced, weighing 6 to 7 lb., and had good acceptance with consumers. . . . Work on elimination of long-term bookings and price guarantees continued. . . . Some feed men were concerned about portable feed mills and sought regulations on such mills. . . . Loans were made to farmers in drouth and storm areas by USDA. . . . There was court litigation over patents and the manufacture of irradiated yeast. . . . The Southern Mixed Feed Manufacturers Assn. protested Listerine advertising copy to the effect that "eggs break you down socially." The breath deodorant advertising to this effect was then withdrawn. . . . The industry continued to be concerned with such problems as non-uniformity in feed laws and some unethical practices. . . . The use of teletypewriters, "talking on paper," was hailed as an innovation of value in providing cheaper communication and a printed record of the conversation. . . . Opposition to open formula laws was successful in some states where such bills were proposed.

L. S. Riford, Beacon Milling, was elected president of the Northeastern Feed Manufacturers Assn. . . . Alexander Legge, chairman of the Federal Farm Board, resigned; he was replaced by Samuel H. Thompson of the Farm Bureau. . . . Stanley W. Dreyer rejoined the Dreyer Commission Co., St. Louis, after being in other business for a time. . . . Oscar M. Straube moved from Kansas City to Minneapolis to take charge of the Nutrena Feed Mills plant there. . . . C. W. Sievert was named to head the feed service established by the American Dry Milk Institute. . . . L. J. Walsh, Washburn Crosby Co., was elected president of the Midwest Feed Manufacturers Assn., later resigning and being succeeded by A. B. Schreiber, Schreiber Milling & Grain Co., St. Joseph, Mo. . . . O. E. M. Keller became general manager of Kasco Mills. . . . J. E. Walsh was made general manager of Vitality Mills. . . . Dr. J. E. Hunter, Pennsylvania State College, was among Feedstuffs authors. . . . H. R. Kraybill, Lafayette, Ind., was elected president of the Association of American Feed Control Officials. . . . It was announced that J. P. Parks would become associated with the Russell Grain Co. as manager of its feed department, specializing in trading in the millfeed futures market to open at Kansas City. . . . E. F. Morris organized the Feed Manufacturers Supply Co. in Minneapolis.

Plans for a millfeed futures market at Kansas City were announced. . . . There were nearly 1,900 bank failures in 1931. . . . The Southern Mixed Feed Manufacturers Assn. agreed that the past year had been the worst in the history of the industry. L. R. Hawley, Memphis, was elected president. H. L. McGeorge, Memphis, was elected treasurer and also had the most birdies in the golf tournament. . . . The Grain & Feed Dealers National Assn. again denounced the Agricultural Marketing Act. H. A. Butler, Omaha, was re-elected president.

THE INTERNATIONAL Stock Feed Co., Minneapolis, was sold to the Farmers Union Terminal Assn. . . . The Newsome Feed Co. of Chicago was organized as a subsidiary of the Newsome Feed & Grain Co. of Pittsburgh. . . . Vitality Mills bought the Illinois Feed & Grain Co., Bloomington. . . . G.L.F. formed a new subsidiary company known as Cooperative G.L.F. Mills to do all feed buying and manufacturing. H. E. Babcock was named general manager. The president of the new company was J. A. McConnell, formerly assistant general manager of the holding company and head of the feed and grain service. . . . Allied Mills' net income for the year ended June 30, 1931, was $22,247, compared with $356,510 the preceding year. . . . G. E. Conkey Co. announced it would build a feed plant at Memphis. . . . Early & Daniel Co., Cincinnati, celebrated its 50th birthday. . . . The Kansas City plant of Arcady Farms Milling Co. was to be closed until there was a prospect for increased business, according to W. D. Walker, president. . . . The Dreyer Commission Co. decided to open a Kansas City office.

Deaths: J. O. Dwyer, Happy Feed Mills, Memphis; Lewis J. Elsas, Fulton Bag & Cotton Mills; John W. Eshelman, Sr., John W. Eshelman & Sons, Lancaster, Pa.; Edward Bedford, Corn Products Refining Co.; John W. Daniels, Archer-Daniels-Midland; George M. Beibel, Dixie Mills Co.; D. H. Bradshaw, leading figure in Pacific Coast feed trade; Robert P. Sellew, Chas. M. Cox Co.

v v

1932

Industry Holds Out In Depression Struggle

The depression again was the big concern of feed men as well as other businessmen in 1932. As the feed industry entered 1932, it saw the continuing tendency for farm product prices to go lower, reducing farmer purchasing power to the lowest level in the 20th century. At the same time, there was an even sharper decline in feedstuffs prices, bringing whatever prosperity the industry enjoyed. At any rate, the industry seemed to be coming through the period of economic upheaval better than most businesses.

At the end of 1932, statistics showed total farm income of about $5.2 billion, compared with $12 billion in 1929. Hog prices for a time during the year were around $3 cwt. Grain prices also were very low. At mid-year, feed prices included: Kansas City bran $7, Memphis cottonseed meal $11.50, Chicago soybean meal $19.50.

Later, egg and butter prices in particular were improved, and there had been some other upturns, brightening the feed business outlook somewhat. However, feed business was not very good during the year, and a few bankruptcies were reported.

Meanwhile, the grain and feed trades were still troubled with the government-in-business problem resulting from the farm legislation and the Federal Farm Board activities. As the year ended, there also was a

LOOKING AHEAD

From an editorial in the Aug. 21, 1931, issue of Feedstuffs: "There's life in the old girl yet—census figures on animal population show what a giant the feed industry can be if it realizes its full possibilities. Present development is hardly a bite out of the apple. There probably always will be times such as the present when it almost seems that the industry has been over-expanded. These detours are brought about by unusual and temporary conditions. The road ahead is long and broad and straight, however, and calls only for common sense driving and a normal amount of judgment."

"Yes, son, I guess I am Mr. Purina"

You bet he is! Yet he's a completely independent dealer. He *earns* his reputation for service, largely through his own vision, ability and character. But smart businessman that he is, he knows that today's modern livestock and poultry feeding is too complicated to go it alone.

That's why he treats his expertly trained and equipped Purina salesman as a "partner."

That's why he uses every bit of research-proven help and information on better breeding, management, sanitation, and feeding he can get from Purina Research Farms.

That's why he eagerly welcomes the colorful Purina films, records, charts, meeting and employee training materials, displays, radio, farm paper, and newspaper advertising . . . worth literally thousands of dollars a year as tools to get, service and hold customers.

The Years of Decision

Whether to make the local dealer kingpin in the feed business has long been a point of issue. Until comparatively recently, feed dealers *dispensed* feeds to feeders who practiced the *art* of feeding—much as it had been done for generations.

But with startling abruptness the science of nutrition changed the whole sleepy picture! The feeder had quickly to put science into his feeding operations or fall hopelessly behind.

The feed dealer had to become a continuing source of new knowledge and service or go out of the feed business.

Feed manufacturers had to decide whether to help equip the local feed dealer for modern service and merchandising, or to assume, themselves, the responsibilities of retailing.

Why Some Dealers Become Storekeepers

Many manufacturers, through their own fieldmen, take over the entire job of service to the feeder—culling, de-beaking, and help with feeding and management problems. The local dealer becomes little more than a storekeeper. And in some areas where feeders own bulk storage facilities, certain manufacturers take even this time-honored function away from him by delivering directly to the feeder.

How Other Dealers Become Retailers

But in almost every community there is at least one dealer who *wants* to meet the challenge of today's complicated, exacting business of feeds and feeding. He understands that feeders need day-to-day, face-to-face service . . . something only a local man, properly trained and equipped, can give with the complete reliability his customers need. He wants the pride that comes from *earning* the profit he makes on the money, time, and effort invested in the business. He *wants* to be the retailer.

This is the man the Ralston Purina Company asks to become a partner.

This is the man who becomes "Mr. Purina"!

Our Sincere Congratulations

To FEEDSTUFFS on the important job it has done in just 25 years to help give the feed industry intelligent direction and high moral purpose. Its editors and staff deserve the commendation and gratitude of manufacturer, jobber, broker, dealer, and the farmer. Recognized as a prime source of factual information on feeds and feedstuffs, it has also served as a responsible forum for analytical thinking and opinion. FEEDSTUFFS has earned its proud place as one of the leaders of American Agriculture.

—J. D. Sykes, *Vice President*, Ralston Purina Company

RALSTON PURINA COMPANY
1622 CHECKERBOARD SQUARE • ST. LOUIS 2, MO.

Real Service To The Farmer

change in national administrations to speculate about.

SIGNS OF THE TIMES: Government wheat was used to help feed needy humans and also livestock in drouth areas. Some feed manufacturers ground wheat for drouth feed relief. . . . Farmers in some areas went on strike, refusing to sell their products unless prices rose. . . . AFMA membership declined from 151 in 1931 to 133 in 1932. . . . The index of feed prices fell to 44% of the basic 1926 level. . . . An Iowa feed mill was burning corn under its boilers; corn at 9 or 10¢ bu. compared with $5 ton for soft coal. . . . Some people blamed the coming of the tractor for the farm depression; they said a reduction in numbers of horses helped cause the grain surplus. . . . Wheat was cheaper than sawdust in some places. . . . One supplier advertised "hard time" feed formulas for feed mixers.

Feedstuffs was asked by New Jersey police to help in finding the Lindbergh baby killer. The words "animal food" were printed on a bag found near where the baby was buried. . . . A millfeed market factor for some time was the use of bran as grasshopper bait.

Other developments: Millfeed futures trading was started at Kansas City, Frank A. Theis dedicated the market. . . . Some feed men continued to be concerned with competition from portable grinders. . . . There were higher freight rates on many feeds because of a surcharge on rates to help financing of weaker carriers. . . . Feed men complained that some college men "fell over backwards" telling farmers to use home grown or home mixed feeds. . . . Too many farmers were feeding straight soybeans to hogs, causing soft pork. . . . Horses began to regain some popularity, partly because of low feed prices and higher gasoline taxes. . . . Credit remained as a thorny problem for both manufacturers and dealers.

Feed dealer meetings stressed such problems as credit, price vs. quality, fear of depression and too much speculation. . . . B. F. Rudy, Rudy-Patrick Seed Co., was elected president of the Midwest Feed Manufacturers Assn. . . . The AFMA, at its meeting, looked for some improvement in business conditions. Progress in eliminating long-term bookings was discussed. Elected president was Harold A. Abbott, Albert Dickinson Co., Chicago. . . . The Grain & Feed Dealers Assn. attacked "political tinkering" with agriculture. Elected president was George E. Booth, Lamson Bros. & Co., Chicago. . . . The Southern Mixed Feed Manufacturers Assn. held out hope for better business soon. H. L. McGeorge, Royal Stafolife Mills, was elected president.

SMALL "BATCH MIXERS" received attention in the industry. Most manufacturers agreed that the mixers in local mills were here to stay and that it would be better to join with the movement rather than fight it. The possibility of selling dealers concentrates to mix with farmers' grain was suggested.

The National Soybean Oil Manufacturers Assn. adopted definitions of soybean products, and these included solvent extracted or "new process" soybean meal. . . . Attention was being paid to feeding market poultry in broiler-type production. . . . E. A. Webb, Anheuser-Busch, said legalized beer would bring prosperity to farmers and others, while some feared it would cut into milk sales. . . . Some dry calf starters were being made. . . . Dehydration of alfalfa was gaining some attention, though many doubted its values at first. . . . Another lot of medicinal whiskey was authorized by the government in 1932, which would make some more distillers' by-products available for feed. . . . Control officials noted progress toward more uniform feed laws, but much remained to be done. The officials also felt that the growth of local "batch mixing" facilities would present more control problems.

William H. Danforth resigned as president of Ralston Purina and was named chairman; his son, Donald Danforth, became president. The secretary was E. G. Cherbonnier. . . . E. L. Cocke, Ashcraft-Wilkinson Co., advocated that dealers push sales of cottonseed meal as lawn fertilizer. . . . E. V. Moorman, Quincy; E. M. Peet, Council Bluffs, and James H. Murphy, Burlington, Wis., were among officials of the American Stockman's Supplies Assn. . . . C. P. Clark, Quaker Oats Co., announced that 222 manufacturers had endorsed the trade relations plan aimed at elimination of long-time bookings and guaranteeing of prices. . . . Howard E. Babcock retired as general manager of the G.L.F. Exchange. . . . E. F. Morris was named to direct feed sales for Fruen Milling Co., Minneapolis. . . . L. C. Newsome resigned as president and sold his interest in Newsome Feed & Grain Co.

HE'LL FLY IF POSSIBLE

From the Dec. 10, 1932, issue of Feedstuffs: "Max Cohn, Sunset Feed & Grain Co., Buffalo, left by airplane for Chicago. He expects to go to Minneapolis from the Windy City by air if possible."

"SNOW-FLAKE"
OYSTER SHELL

Buy Now
While New Crop Alfalfa Is Being Cut

Buy Direct
From a Basic Supplier in the Heart of the Finest Alfalfa Country

CALL US
For a Square Deal on—

SQUARE FARE
DE-HY
MEAL CUBES

DEHYDRATED ALFALFA MEAL—PELLETS

DAWSON COUNTY FEED PRODUCTS, *Inc.*
LEXINGTON, NEBRASKA
PHONE 144 • TWX 82992

Dogs Go For Foods Containing
WARD'S KIBBLED PRODUCTS
Makes any good dog food better
WARD'S KIBBLED CORN and WHEAT or Pre-Mix 70% Corn 30% Wheat
AVAILABLE IN VARIOUS GRANULATIONS

IMPROVES PALATABILITY
Vitamins, Minerals and Proteins for Sturdy Growth
Our special process completely converts starch to dextrose and fully preserves the germ—Thoroughly cooked under steam pressure, then toasted.

PLEASING AROMA—Crunchy and Tasty
WARD'S KIBBLED PRODUCTS ARE USED EXTENSIVELY THROUGHOUT THE UNITED STATES, CANADA AND SOUTH AMERICA

Ingredient Headquarters for Dog, Mink, Fox and Cat Foods

CEREAL TAILINGS	CRACKED WHEAT	DEHY. BREAD MEAL
WHEAT GERM	BREWERS YEAST	BREAD SLICING CRUMBS
WHEAT GERM OIL MEAL	TOMATO PULP	MIXED COOKIE MEAL
WHEAT GERM OIL	APPLE POMACE	ICE CREAM CONE MEAL
MEAT MEALS	LIVER MEALS	CKED. PEARLED BARLEY

AND OTHER INGREDIENTS FOR ALL TYPES OF MEAL, PELLET AND CANNED FOODS

ASK FOR SAMPLES AND DELIVERED PRICES

Regular Coarse "A"—Pea size.
Regular Fine "B"—For mink foods, puppy meal, pellets, calf and pig meal.
Chip Size "C"—Used in canned dog foods. It is about consistency of cracked wheat or cracked pearled barley.
Pulverized "D"—Some buyers prefer this for pellets, biscuits, puppy meal, calf and pig meals; also used extensively as a supplement carrier and for fowl and station fattening feeds.

Energy Ingredient for Hunting Dogs

WARD FEED CO. Commerce Bldg., Glen Ellyn, Ill.

UNCLE JOHNNY MILLS PROUDLY PRESENT

The "Vitabilt" line of Uncle Johnny's Feeds include: EGADAY for poultry; PORKADAY for swine; MILKADAY for dairy cattle; FEEDADAY for cattle, sheep and goats; QUARTER HORSE, the ideal, all-grain feed; "VITABILT" RABBIT PELLETS; FEED & FATTENER for feed lot feeding; GREENADAY, green feed supplement; PIGEON FEED; GAME BIRD FEED; MINAMIX, protein-salt-mineral feed, with or without phenothiazine, for controlling intestinal parasites in ruminants; NURSKOW, true milk replacement for calves; BARK Dog Food, the one complete dog food on the American Market that contains a special *pre-digested* ingredient beneficial to dogs; and Uncle Johnny's CONCENTRATES, with which a custom mixer or feeder owning a small mixer and having available local grains can manufacture a full line of good quality formula feeds.

Typical UNCLE JOHNNY RETAIL FEED STORE, owned and operated by Mr. Henry Holz, Waller, Texas.

EGADAY DEALER IS HUB OF PROGRAM

Uncle Johnny Mills' entire program of distribution is through appointed local franchised feed dealers, a plan of proven success. The franchise agreement gives the dealer the opportunity to assure his future as a business man. It offers him security, in that he has an exclusive, quality product backed by a well integrated program of promotion, advertising, merchandising and personnel training.

The public has come to know well and have confidence in the feed store with the red "Egaday" lettering and the colorful blue-and-white egg design painted on the store fronts. Cooperation between Uncle Johnny Mills and their many Franchised Uncle Johnny Dealers in Texas and Louisiana has been a happy relationship during more than a half century of progressive team work for mutual profit, well being and security.

REGARDLESS OF CLAIMS— REGARDLESS OF TALK— REGARDLESS OF PRICE—

Through Fifty-Six Years of Continuous Operation and Scientific Progress Uncle Johnny Mills Have Learned the "Secrets" of

HIGH PRODUCTION AT LOW COST!

The Uncle Johnny Mills of Houston, Texas, are feed specialists. Every thought and effort since 1898 has been concentrated on the manufacture of productive feeds, and feeds only. Every ingredient needed is purchased for a specific nutritional need. Each ingredient is selected only after it is known beyond a doubt to have the freshness and feeding value to meet nutritional requirements.

Founded in 1898 and continuing for 57 years under administrators with vision and adaptability to changing times, Uncle Johnny Mills have followed their "4-P's" program of PLANNING, PURPOSE, POLICY and PRODUCT which produces a "Program for Profit" to the benefit of their feeders and franchised dealers.

This continuous program of progress owes its effectiveness to the combined efforts of wise leadership, loyal employees and dependable authorized dealers, and has set thousands of feeders on the road to profit through lower production costs and increased efficiency.

This highly desirable goal has been achieved through the precision method of processing feed *exclusive* to Uncle Johnny Mills and known as "Vitabilt."

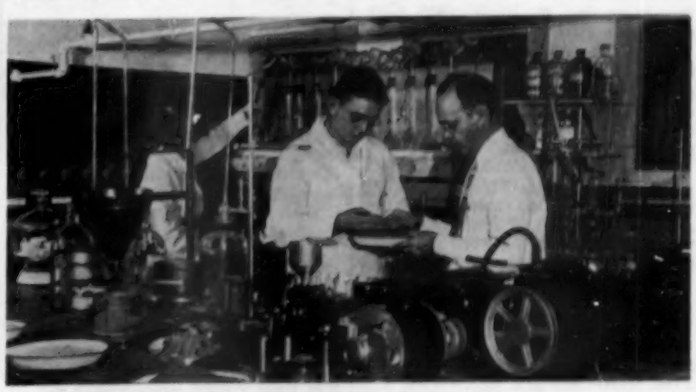
All equipment and machinery of the Uncle Johnny Mills are of latest design and type, so necessary in processing feeds required by modern techniques.

Developed by the Mills' own Research Department, "Vitabilt" means to incorporate properly and in correctly balanced proportions, the right kind of necessary quality ingredients to produce feeds for maximum feeding "RESULTS."

Uncle Johnny Mills and its entire personnel are proud of the organization's history of progress and expansion, and particularly of the many *"firsts"* they have developed through the Mills' own research.

Among these *"firsts"* are: (1) The use of pulverized oats in Starter Feed for chicks and poults, (2) Introduction of Kelp in feed, (3) Pioneering and testing of fish meal in feed—an ingredient that proved to be an important source of unknown factors of great stimulus to growth and development in poultry and livestock, (4) Introduction of the use of Manganese in poultry feeds—proved important in the control of Perosis and egg shell texture, (5) Development of the "Vita-Verde" Program, resulting in higher quality alfalfa meal with maximum Vitamin A content, (6) Pioneer research and testing of the unknown growth factor "APF-b/12" which later became famous as "antibiotics." In this field, Uncle Johnny's nutritionists moved cautiously, but at the same time unafraid. As a result, when the antibiotics were proved beneficial, Uncle Johnny Mills were one of the few mills in the nation with adequate commercial stocks of APF to assure feeders this newest and best nutritional growth factor would be immediately available in Uncle Johnny's Feeds.

Nor do these "firsts" by any means mark the end—they are merely mileposts along the way of continued progress of this firm which has served Texas and Louisiana with distinction and honor for 57 years. As new factors are discovered, they will be thoroughly and boldly tested and tried—to be used or discarded, as results are determined. The one goal—since 1898 and never altered, will continue to be: to manufacture Uncle Johnny's "Vitabilt" Feeds that result in MAXIMUM PRODUCTION of meat, milk and eggs AT MINIMUM COST AND GREATEST RETURNS to the feeder!



Uncle Johnny's Feeds begin and end with laboratory experiments, controlled checking of ingredients and processing, so that the finished product will be worthy of the Uncle Johnny "Vitabilt" label.

UNCLE JOHNNY MILLS
Houston, Texas

MAKERS OF THE FAMOUS *Egaday* POULTRY FEEDS

Major Developments in Nutrition

To list all of the developments of importance in animal and poultry nutrition would require thousands of words. However, some of the important developments since the 1920's have been listed by Dr. J. E. Hunter, research director of Allied Mills, Inc. Many significant discoveries have not been mentioned, he points out, but following is a list of some of the important milestones that have exerted a strong impact on animal and poultry nutrition:

THE DISCOVERY of vitamin B as a nutritional entity.

THE DISCOVERY of vitamin A and vitamin A activity of carotene.

THE DISCOVERY of vitamin D, making it possible to rear animals and poultry throughout the year and making confinement methods possible.

DISCOVERIES of irradiated plant and animal products as sources of vitamin D; development of concentrates of vitamins A and D.

RESEARCH on both major and trace minerals; development of more sources, including phosphorus sources.

FRACTIONATING of vitamin B into its many important parts and the synthetic production of water soluble vitamins.

DEVELOPMENT of microbiological and other techniques for assay of water soluble vitamins and amino acids.

PROCESSING and improvement of soybean oil meal.

THE DEHYDRATION of alfalfa.

EXPANSION of research facilities by feed manufacturers; research laboratories and farms.

ESTABLISHMENT of the Nutrition Council of the American Feed Manufacturers Assn. and similar councils in allied industries.

DEVELOPMENT of fish solubles; distillers residues; dried whey.

PRODUCTION of amino acids for research purposes and later for commercial use.

DEVELOPMENT of quantitative requirement data on the many feeding factors for many classes of livestock and poultry.

SUMMARIZATION of requirement data as well as data on feed composition by the National Research Council.

DISCOVERY of urea and other forms of non-protein nitrogen as partial protein replacers for ruminants.

FEEDING RUMEN bacteria and more efficient use of roughage.

DEVELOPMENT of high energy feeds, pointing the way to more efficient gains and production.

DISCOVERY and use of vitamin B_{12}.

DISCOVERY and use of antibiotics, arsenicals, hormones; use of drugs to prevent disease.

DEVELOPMENT of improved feed production machinery, making possible the manufacture of more complex feeds.

MILK SUBSTITUTES for calves and pigs.

TEXTURE CHANGES in feeds and ingredients, and development of pellets and crumbles.

DEVELOPMENT of closer working relationships among research workers, feed manufacturers and state regulatory officials.

---

of Pittsburgh and affiliated companies in Chicago, Minneapolis and Kansas City. He had been in poor health for some time. . . . H. D. Egly resigned as executive vice president of Allied Mills. . . . O. B. Kent, Quaker Oats, was a speaker at a poultry meeting. . . . Dr. J. E. Hunter, Pennsylvania State College, said feed men needed to know more about nutrition and health habits of livestock.

Quaker Oats earnings in 1931 were reported higher, although feed tonnage dropped sharply. . . . The Farm Bureau Service Co., St. Paul, started feed production. . . . An explosion and fire wrecked the Allied Mills plant at Omaha; rebuilding started immediately. . . . Arcady announced the reopening of its Kansas City mill, with Paul Blodgett in charge. . . . Quisenberry Feed Manufacturing Co. was reorganized under J. E. Musgrave, who had been vice president of the firm. . . . A subsidiary of Centennial Flouring Mills Co. installed a feed mill at Portland, Ore.

Deaths: John J. Wolcott, Wolcott & Lincoln, Kansas City; M. L. Barbeau, S. Howes Co.; George A. Archer, Archer-Daniels-Midland; Eliot W. Mitchell, Consolidated Feed & Grain, Buffalo.

v v

1933

The Blue Eagle Invades Feed Industry Affairs

The year 1933 was the year of the "blue eagle," for feed men as well as other business men, as the new Democratic administration undertook to push recovery with the National Recovery Administration (NRA). Going into the new year, prices were still low; in fact, feed prices at the end of 1932 were the lowest of the depression to date, at 38% of the 1926 level.

There were fluctuations in prices of farm commodities during the year, but in general price levels rose. For a time, speculation brought some sharp increases in grains which were followed in turn by the sharpest price crash up to that time, and futures trading was suspended.

The feed manufacturing industry was enduring the depression fairly well, it was felt, and prospects improved with farm price advances, although there were still some particularly weak spots, as in dairy prices, at the end of the year.

The old Federal Farm Board was no more, and in its place were the Agricultural Adjustment Administration, credit programs, authority to reduce production and pay bonuses to farmers, processing taxes to finance the payments, government purchases, and inflationary action with money. The feed industry did not have to pay a processing tax, but it came under the NRA regulations, and that brought discussions of codes and more codes for the industry and its suppliers.

CONTROLS under the National Industrial Recovery Act took the form of executive approval of voluntary trade codes, reducing working hours, fixing wages and regulating competition. A labor code for the feed manufacturing industry, as drawn up at an AFMA meeting, provided in general for a 40-hour week with wages of not less than 40¢ an hour, except 30¢ in the South. (Retail employees could work 48 hours.) The tentative trade practice code was to prohibit such things as selling below cost, long-term bookings and price guarantees. Later the proposed code was rewritten, and then at a special AFMA meeting, W. H. Danforth of Ralston Purina took the floor to criticize the code severely, saying it was too complicated and not practical. H. G. Atwood of Allied Mills and H. E. Babcock of the Cooperative G.L.F. Mills agreed. Finally, it was decided that the code should be revamped, changing the trade rules to cover only the points previously advanced by the National Feed Merchandising Council.

Another major event in 1933 was the reorganization of the AFMA to give each section of the country representation in association activities.

Distributors and retailers also were busy drawing up codes. In connection with this, the National Federation of Feed Associations was formed, with E. C. Dreyer of St. Louis as president, Floyd Oles of the Pacific Northwest Feed Assn. as executive vice president and David Steenbergh, Milwaukee, as secretary. The manufacturers did not join this organization. As the year ended, all groups were awaiting public hearings on their fair trade codes.

Members of a special manufacturers' code committee had been A. F. Seay, Purina; H. L. McGeorge, Memphis; George Albers, Albers Bros. Milling Co., H. L. Hammond, Chas. M. Cox Co., and J. A. McConnell, G.L.F.

SIGNS OF THE TIMES: Farmers rushed pigs to market as the government bought light hogs and piggy sows. . . . Bank moratoria and the Roosevelt bank holiday brought a confused business period. . . . Prices soared for a time after announcement of the government plan for inflation; wheat passed the dollar mark; later there were some price crashes. . . . Rates at the French Lick Springs Hotel for the AFMA convention were $8 a day for meals, room with bath, golf, tennis and swimming. . . . W. H. Danforth, a Republican, advised "going with the crowd" on the economic program which he said was bringing farming "out of the doldrums." . . . Some people advocated compulsory blending of grain alcohol with gasoline to help cut the grain surplus. . . . Fred M. McIntyre, president of the Eastern Federation of Feed Merchants, said the cost of government had risen from $2 per person in 1800 to $38.42 in 1932. . . . More supplies of distillers grains were anticipated with repeal. . . . There were farm strikes in some areas. . . . War Department plans called for gradual elimination of horses and mules from the field artillery if sufficient funds were made available for motorization by the Public Works Administration.

Most of the associations were concerned with NRA codes. But there were other problems, too—truckers buying feed and selling it at low prices to farmers; regulation of trucks; artificial market restrictions; credit; portable mills; uniformity of feed laws; processing taxes on grains, which were regarded at best as a long gamble in helping prices. . . . Control officials continued to wonder about control of "batch mixers." Larger feed manufacturers were meeting this by selling concentrates or opening local plants.

PURINA installed a soybean plant at St. Louis. . . . A. C. Palmer, president, bought the Wilson interests in Tioga-Empire Feed Mills, Waverly, N. Y. . . . L. C. Newsome organized the Newsome Commission Co. in Minneapolis. . . . Allied Mills planned to build a soybean plant at Norfolk. . . . Denver Alfalfa Milling & Dehydrating built a plant in Michigan. . . . Allied Mills earnings were up with tonnage increased for the first time in three years. . . . The Heil Co., Milwaukee, placed in operation a portable alfalfa dehydrating plant. . . . The National Linseed Oil Manufacturing Assn. was formed with Howard Kellogg of Spencer Kellogg as president. . . . The "machine age" hit chicken farming in a beginning of the broiler industry. . . . The Mineral Feed Manufacturers Assn. was organized with E. O. Moorman, Moorman Mfg. Co., Quincy, Ill., as president. The executive secretary and treasurer was L. F. Brown, who had previously been AFMA secretary for 21 years.

C. A. Coddington, Beacon Milling, was elected AFMA president, with Searle Mowat, Larrowe, as vice president. Ralph Field, who had been AFMA traffic manager, became executive vice president. . . . Prof. Raymond T. Parkhurst, formerly of the National Institute of Poultry Husbandry, England, joined National Oil Products Co. This company also opened an experimental farm in 1933. . . . Whitney Eastman, William O. Goodrich Co. was named Milwaukee Association of Commerce president. . . . J. J. Vanier, Western Star Mill Co., bought a ranch near Salina, Kansas. . . . C. F. Lane became president of Gateway Milling, Buffalo. . . . W. E. Suits, Quaker Oats, was reelected president of the National Feed Merchandising Council; later in the year he died. . . . Frank A. Theis, Kansas City, was made administrator of the milling and grain division of the AAA. . . . D. W. McMillen resigned as president of Allied Mills. H. G. Atwood, chairman, became president. Mr. McMillen continued as president of the Central Sugar Co., Decatur, Ill. . . . Charles Whyte, Pine Bluff, Ark., was elected president of the Southern Manufacturers. . . . M. Bailey, Connecticut, headed the control officials. . . . Philip R. Park, who had retired from active management of Park & Pollard, Buffalo, in 1925, returned to the company as general manager.

Deaths: J. Perry Burrus, Dallas grain, feed and flour man; James H. Matthews, Spencer Kellogg; Frank D. Wilson, Gateway Milling, Buffalo; Robert W. Chapin, Chapin & Co., Chicago; W. E. Suits, Quaker Oats; Walter M. Browne, Memphis broker.

v v

1934

Scorching Drouth Adds To Trade's Problems

In 1934, the problems of depression and NRA codes continued, and in addition a severe drouth hit a broad area between the Rocky Mountains and the Mississippi Valley.

The widespread and long extended drouth took a severe toll of pastures, crops and livestock, broad and government relief measures were taken. There were purchases of millions of cattle, loans for feed to farmers, direct relief and freight rate reductions on feed.

The feed program was set up so that there was some private trade participation, with feed being distributed through local dealers. But the program was not without its problems, and feed men complained

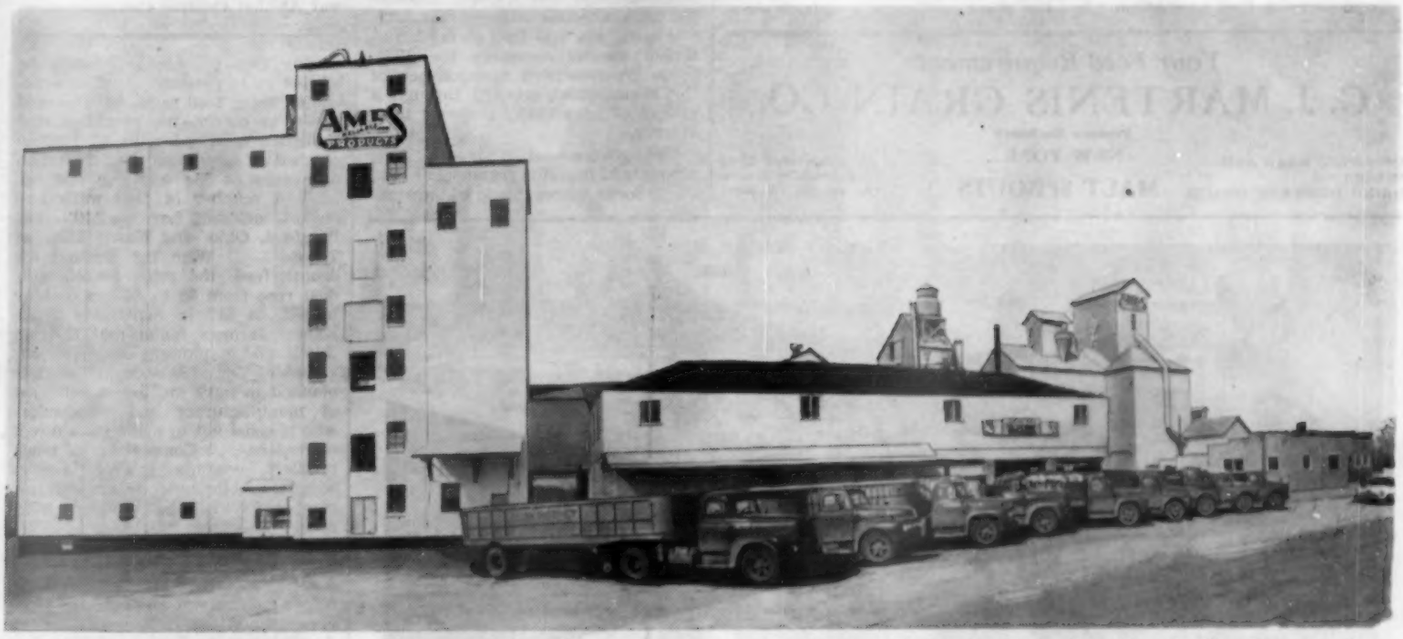
---

WHEN IS A PIGGY SOW PIGGY?

From the Sept. 2, 1933, issue of Feedstuffs: "When is a piggy sow piggy? The question is not so silly as it sounds. The government is paying a bounty of $4 a head on sows that are heavy in pig. But packer slaughter records have shown that actual pigginess has, in some cases, run as low as 50% in sows passed by the inspectors as piggy and on which the $4 bounty has therefore been paid. Half of them not piggy at all! Do the inspectors know a piggy sow? Or do they reflect in their inspections a bit of extra liberality on the part of our Uncle Samuel, bent as he is on getting money into circulation? Or, if it is permitted to add a third question, do the inspectors take into account intentions on the part of the sow?

"So far there has been no report on a producer refusing the $4 bonus even when offered on sows not only not piggy but not bred. The question of ethics involved is not being raised. When it comes to getting something free from the government, ordinary rules of conduct seem to have a way of going into hiding."

AMES RELIABLE
NEW FEED MILL
To Serve Iowa Feed Dealers Better



Ames Reliable has erected this modern feed mill to serve Iowa Feed Dealers even better. Year after year, the demand for Ames Reliable feeds for poultry, hogs and cattle has increased because of exceptional quality and service. An increased production capacity was necessary to meet present demands of Iowa farmers for Ames Reliable feeds.

The all-concrete structure with the latest of modern equipment makes it possible for one man at a central control board and a very few men tending the machines to produce each particular feed without handling. Every operation is mechanical and practically automatic. Each ingredient is weighed accurately for each batch of feed before mixing. Electronically controlled scales at the base of each bin weighs each ingredient for mixing on to conveyors which lead to the ultra-speed mixer. The mixed feed is then conveyed to the pellet machines and crumblizers before being transported mechanically to the bagging rooms. Greater accuracy in manufacturing is an extra assurance of quality in the final feed.

4
ADVANTAGES
of AMES Reliable
Feeds and Service
for Iowa Feed Dealers

WE WANT to thank the many suppliers and feed dealers who attended our open house in April. We enjoyed showing this new feed mill that utilizes the many advantages of automation. This ultra-modern mill is an achievement of 30 years in serving Iowa farmers through leading feed dealers to whom we wish to express our deep appreciation. Present Ames Reliable dealers are aware of their advantages but we feature 4 of them here and invite other dealers to join our growing distribution team.

1. New Feed Mill

ASSURES *automatic accuracy and uniformity in mixing each formula feed.*

ASSURES *the capacity in all seasons for a constant supply of all feeds, freshly mixed.*

2. Prompt Truck Delivery

ASSURES *fresh feeds of high quality.*

ASSURES *fast turnover for better profits.*

3. Research and Feed Improvement

ASSURES *sound feed formulas incorporating the most recent advances of science.*

ASSURES *feeds thoroughly tested to fit Iowa farm conditions.*

4. Advertising and Sales Promotion

ASSURES *steady turnover through increasing demand.*

ASSURES *dealer identification and dealer publicity.*

NOTE: *Established Iowa feed dealers are invited to write regarding the highly desirable Ames Reliable Feed Franchise*

AMES RELIABLE PRODUCTS CO., Ames, Iowa

that established dealers were being ignored in some areas.

In connection with the program, some feed manufacturers made inexpensive maintenance feeds for livestock, using almost any type of ingredient available for a ration which would help keep animals alive.

With the drouth, grain and feed prices soared. And the scarcity also contributed to cutbacks in poultry and hog production and increases in prices. In spite of the reductions in farm output, total farm income rose by about a billion dollars over 1933, and farmers outside the drouth area found their returns larger.

Total formula feed production for the year rose to close to 9 million tons.

Early in the year, while serious business problems continued, conditions were better than a year earlier, and W. H. Danforth of Ralston Purina was among those predicting improved feed demand.

MEANWHILE, the long awaited signing of the NRA code of fair competition for the wholesale feed manufacturing industry finally occurred in May. Prohibited as unfair competition were long term sales, price guarantees against declines, rebates and violation of laws covering composition and identity of feed. For plant employees, a 40-hour week and minimum wages of 40¢ per hour, or 25¢ in the South, were specified. Ralph M. Field of the AFMA was named code director for the industry. A. F. Seay of Ralston Purina was elected chairman of the code authority.

The feed distributors code also was prepared, but there were many delays and it never did go into effect in 1934.

While all of this went on, the government's sweeping farm program was in effect, including provisions for production control, payments to farmers, purchases of butter, hogs and other commodities, and processing taxes. Officials declared that AAA was a success, and they planned continued special measures for 1935. Some recommended maintenance of the ever-normal granary through a system of government-financed farm storage.

The government bought large amounts of bran for grasshopper bait. . . . Some states made rulings requiring that vitamin D carriers be labeled as to potency. . . . The practice of lining feed sacks with colored paper to prevent rancidity was studied. . . . Feed mills at Buffalo reached an agreement with the union on wages at 55¢ an hour and up. . . . A number of feed mills had strikes, including Larrowe Milling at Rossford, Ohio, and Kasco Mills at Toledo. . . . With the demand for drouth feed, the price for elevator dust rose from $3 to $4 ton in May to $15 to $17 in September. . . . Kansas farmers found that Russian thistle and sunflowers could be very valuable. . . . Wisconsin dealers planned to have an "honor roll" list of manufacturers and wholesalers who pledged not to make sales direct to feeders. . . . Competition of truck peddlers continued, and dealers sought to eliminate or control this competition in the planned NRA code.

THE PRIOR SIGNING of the NRA code drew a record crowd to the AFMA meeting at French Lick, where government and industry leaders outlined the code provisions. C. A. Coddington, Beacon Milling Co., was reelected AFMA president. . . . The Southern Mixed Feed Manufacturers Assn. voted against modification of its activities and decided to continue as an independent group. Will A. Hall, International Sugar Feed Co., Memphis, was elected president. . . . The Grain & Feed Dealers National Assn. heard both "New Deal" and conservative businessmen speakers at its meeting. . . . The Association of American Feed Control Officials continued to stress uniformity of feed laws. A feed industry spokesman said batch mixers should be brought under the same regulations as larger manufacturers. W. B. Griem of Wisconsin was elected president of the control group.

Arcady Farms Milling Co., Chicago, planned to rebuild its dairy feed mill at Riverdale, Ill., after it was destroyed by fire in December, 1933. . . . Maney Bros. Mill & Elevator Co., Minneapolis, celebrated its 50th anniversary. . . . The Feedright Milling Co., Augusta, Ga., built a new feed mill with a capacity of 480 tons in eight hours. . . . The Dickinson Feed & Seed Co. was formed in Minneapolis to take over the business previously conducted there by Albert Dickinson Co. of Chicago. . . . Purina bought the Ontario Milling Co. at Oswego, N.Y. . . . The Abbott Feed Co. was formed at Chicago by Harold Abbott and Walter Jones, formerly with Albert Dickinson. . . . The new Feed Products Corp. began manufacturing feed at Buffalo. . . . Arcady Farms Milling suffered a $200,000 loss from fire in April which started in the grinding mill unit and spread to other units. The company leased another plant while reequipping the burned plant.

A new feed firm, Unity Feeds, Inc., was formed at Boston. . . . Charles A. Krause Milling Co., Milwaukee,

ADLAI AND THE BLUE EAGLE

From the Oct. 27, 1934, issue of Feedstuffs: Adlai E. Stevenson of Chicago has been appointed administration member of the code authority for the flour milling industry. Mr. Stevenson is an attorney, being connected with the firm of Cutting, Moore and Sidley. He formerly was a newspaper correspondent in the Balkans and Russia and has acted as special attorney for the AAA and assistant general counsel for the Federal Alcohol Control Commission.

Your Feed Requirements

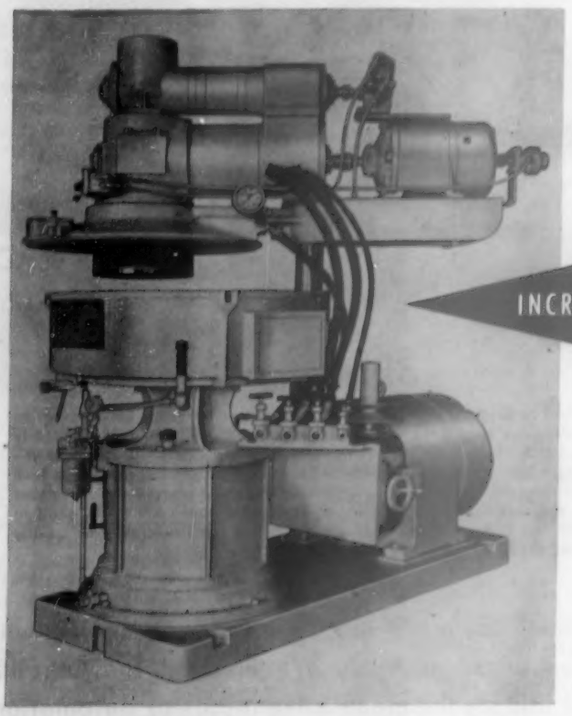
C. J. MARTENIS GRAIN CO.

Produce Exchange
NEW YORK

IMPORTED BRAN AND MIDDLINGS
DRIED BREWERS' GRAINS

MALT SPROUTS

Cottonseed Meal
Distillers' Grains
Old Process Oil Meal



INCREASES PELLETING PRODUCTION

A UNIVERSAL PELLET MILL ALLOWS YOU GREATER VERSATILITY, GIVES YOU *PROVEN* LONGER LIFE.

CHECK THESE 7 *REASONS* WHY YOU PROFIT MORE WITH A UNIVERSAL.

- One basic model produces all sizes, shapes and types of pellets—with maximum production on first run.
- Produces proven outputs from 130 bags per hour of 3/32" pellets to 300 bags per hour of 1/8" pellets or range cubes.
- Die changing time is less than 10 minutes, made possible by hydraulic power. Standard equipment.
- Built-in Uniflow conditioner and molasses blender give high speed production at low power consumption.
- Unitized crumbler attachment produces crumbles at time of pelleting—saving power, material and labor.
- Pressurized lubrication system with oil filter gives you long, trouble-free operation.
- Special alloy steels with special heat treat drastically reduce abrasion and wear on all parts including dies, honed by newly perfected process.

WILLIAMSON-BUILT EQUIPMENT

Williamson engineers are experienced in design and manufacture of coolers and all accessory equipment for a complete pellet plant or feed mill.

Williamson's thirty-five years of experience, their unconditional guarantee on equipment and the fact that one source means undivided responsibility from first engineering to final installation, add up to profit making value to you.

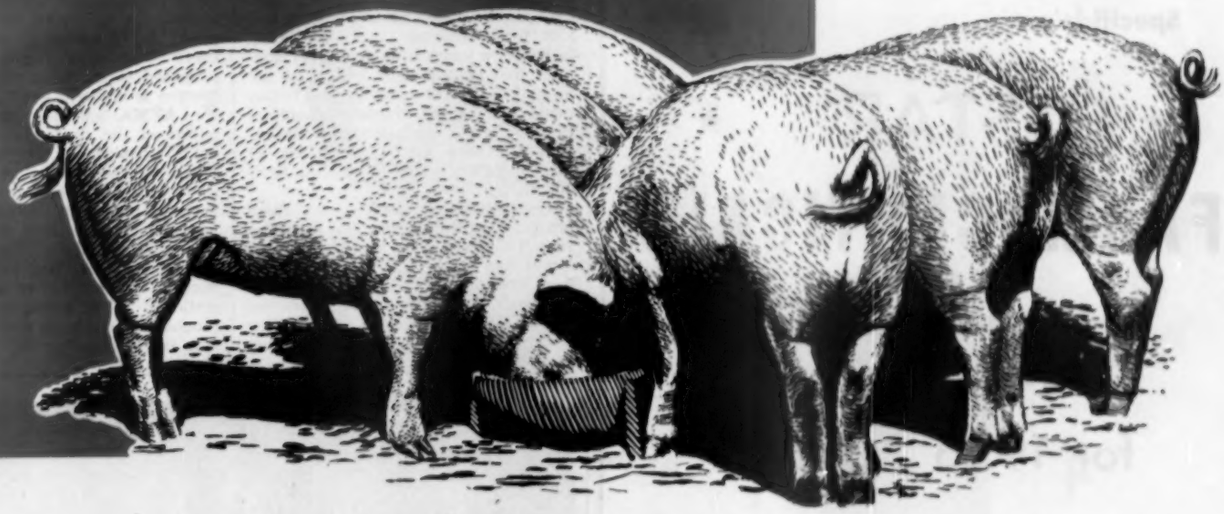
Write or call John W. Williamson & Sons, Inc.,1545 South Greenwood Avenue, Montebello, California. Phone: PArkview 8-2121.

WILLIAMSON

Designs, Engineers, Manufactures, Installs Complete "Turn-Key" Feed Mills.

"SNOW-FLAKE"
OYSTER SHELL

FOR VOLUME ..FOR PROFIT SELL *Sargent* Minral Meal



Drive down any country road in the Midwest. You'll find many successful hog raisers who will tell you "Sargent MINRAL MEAL is the ONLY supplement for me. Sargent MINRAL MEAL and corn is the most economical way for me to put a fast, profitable finish on my hogs."

As a feed dealer, you'll profit, too, by selling this popular hog feed. Do business with the leader—Sargent and Company. You'll like the many Sargent extras, such as a well-rounded, coordinated advertising and sales promotion program that GETS and KEEPS customers for YOU! Sargent and Company has five plants to serve you, too. And Sargent and Company manufactures a complete line of livestock and poultry feeds. Sell the line that farmers prefer—sell Sargent!

Start now by getting in on the Sargent MINRAL MEAL season. Here is a protein and mineral balancer, fortified with antibiotics, trace minerals and important vitamins, including B_{12}. Sargent MINRAL MEAL is an Automatic Balancer that can be self-fed without danger of over-consumption. Write today for details of Sargent and Company's attractive dealer set-up.

SARGENT PLANTS
DES MOINES, IOWA
Monmouth, Ill. Fremont, Nebr. Waverly, Mo. Algona, Iowa

25th FEEDSTUFFS ANNIVERSARY

feed and cereal product firm, became the first company in the milling field to have a closed shop agreement with a union. . . . The Tarkio Molasses Feed Co. plant at Kansas City was destroyed by fire and the firm leased part of the Arcady mill for the time being. . . . After a fire, O. K. Feed Mills, Fort Smith, Ark., rebuilt with a capacity of seven carloads a day. . . . Ralston Purina voted a dividend on its common stock, the first disbursement in three years. . . . Purina bought the Otto Weiss Milling properties at Wichita.

J. H. Barton was made general manager of the National Oil Products Co. Ralph Wechsler was relieved of other duties to concentrate on his work as technical director. . . . Pete Turner resigned as general sales manager for Allied Mills. A. G. Philips, formerly general sales manager, was again named for that post. Ed Griffin was named assistant general sales manager. . . . Donald Davis was elected president of General Mills to succeed James F. Bell. . . . Joseph Nellis, Cereal Byproducts Co., Chicago, played the title role in the drama "Judas Iscariot" at the Goodman Theater.

Oscar M. Straube resigned as manager of Nutrena Feed Mills, Inc., Minneapolis, and joined Nutrena Mills, Inc., Kansas City, as president and general manager. Van Roy Miller became chairman. The plant of Nutrena Feed Mills in Minneapolis (not connected with the Kansas City firm) was closed. . . . Frank Theis resigned as chief of the AAA grain and milling section to return to Simonds-Shields-Lonsdale Grain Co. in Kansas City.

Deaths: F. A. Hallet, Hallet & Carey, Minneapolis; Joseph O. Doty, East Concord, N.Y.

1935

Things Begin to Look Up for the Industry

As a Feedstuffs editorial put it, "the year 1935 was not among the brightest ever enjoyed by the feed industry, but it has been notable for the improvement it brought over the preceding 12 months, both in actual business done and in prospects for further betterment."

The major trends for the feed business were favorable. "Gradually, we are working out of the dark period of the depression," Feedstuffs said. "Farm products raised from feed have advanced in price so that feeding is profitable. Expansion in livestock and poultry population is occurring, and obviously will continue for a considerable period. Indications are that markets will gradually strengthen, which should prove a stimulant to feed sales."

As the year opened, feed shortages were severe because of the 1934 drouth, and relief measures continued for some time. Great amounts of feed had to be imported while, in the peculiar economy, land had been taken out of production. Animal numbers had been reduced, and the feed shortage was alleviated. Later, new crops brought bigger supplies and prices were lower. In the meantime, shorter supplies and better demand improved animal and animal product prices, and as conditions improved, there were indications of an expansion again in animal agriculture.

The extensive government farm program continued, but the constitutionality of the AAA and its processing taxes was questioned, and a final decision was awaited from the Supreme Court. The administration in the meantime urged continuation of an AAA-type program and controls regardless of the outcome of the court case.

A Supreme Court decision ended the NRA and all of its complications, but the AFMA adopted resolutions to continue voluntarily the trade practice and labor provisions of its code. The feed distributors code, bogged down in a controversy with the government over a replacement cost clause, never did go into effect.

OTHER DEVELOPMENTS: A bad dust storm swept over part of the Southwest, again causing a feed problem. . . . The Social Security Act was passed. . . . More dealer groups took up the wholesaler "honor roll" idea to prevent direct selling. . . . Feed manufacturing firms were reporting larger earnings. . . . Some state officials still sought open formulas. . . . A 30-hour week was proposed in Congress. . . . Although there were some objections to the proposed draft, progress was made toward a uniform feed law as both the AFMA and the control group approved the draft. . . . Feedstuffs noted editorially that the "ghost of several million little pigs which were sacrificed last year in order that their brothers and sisters might gain in value is haunting Secretary of Agriculture Wallace. The secretary's plan for raising hog prices was so successful that he is now reaping criticism from consumers who are pinched by the high cost of pork."

A labor relations bill in Congress

BEER'S COMING BACK

From an advertisement in the April 22, 1933, issue of Feedstuffs: "Beer's Coming Back — Cows Can Celebrate. The return of pre-prohibition Budweiser means an increase in the supply of Anheuser-Busch, Inc., brewers dried grains."

Specifide's

★ STAR ★

FARMACEUTICALS

Nominated by Nutritionists

for 1955 "Oscars"

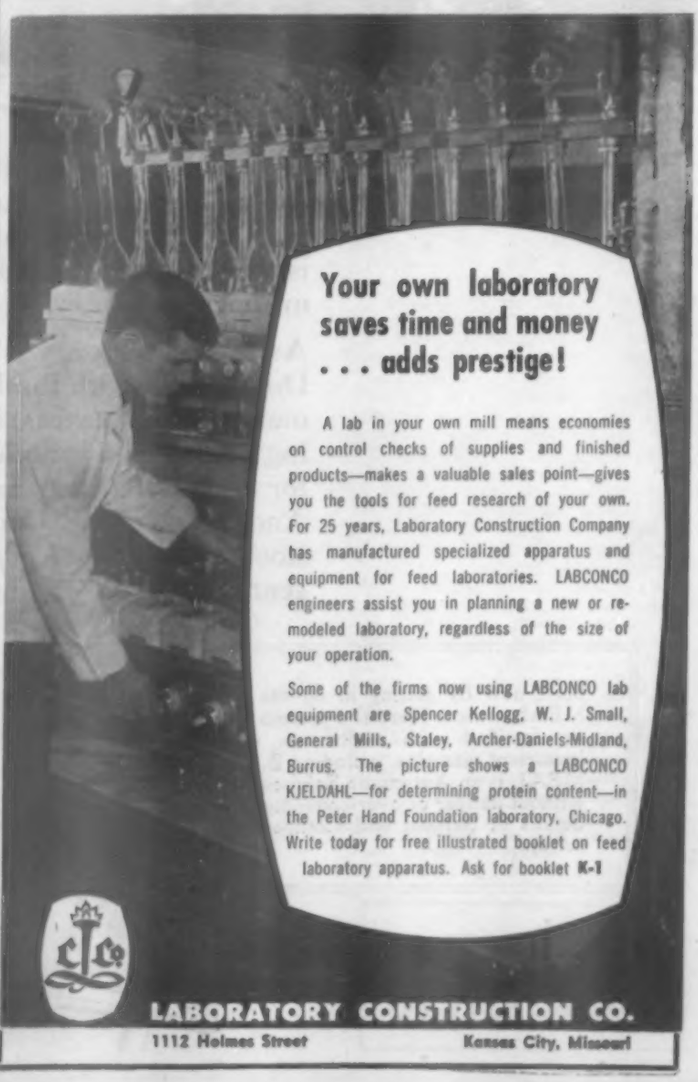
DPPD
METHIONINE
MENADIONE
ARSANILIC ACID
PENICILLIN

These are but a few of Specifide's Farmaceuticals that have seen phenomenal acceptance and growth during the last year. The Maryland Experimental, and ANRC Formulas prove it. (Copies available on request.) Write us for more information.

Specifide, Inc.

Farmacists for the Feed Trade

P. O. Box 5305 • Indianapolis, Ind.



Your own laboratory saves time and money . . . adds prestige!

A lab in your own mill means economies on control checks of supplies and finished products—makes a valuable sales point—gives you the tools for feed research of your own. For 25 years, Laboratory Construction Company has manufactured specialized apparatus and equipment for feed laboratories. LABCONCO engineers assist you in planning a new or remodeled laboratory, regardless of the size of your operation.

Some of the firms now using LABCONCO lab equipment are Spencer Kellogg, W. J. Small, General Mills, Staley, Archer-Daniels-Midland, Burrus. The picture shows a LABCONCO KJELDAHL—for determining protein content—in the Peter Hand Foundation laboratory, Chicago. Write today for free illustrated booklet on feed laboratory apparatus. Ask for booklet K-1

LABORATORY CONSTRUCTION CO.

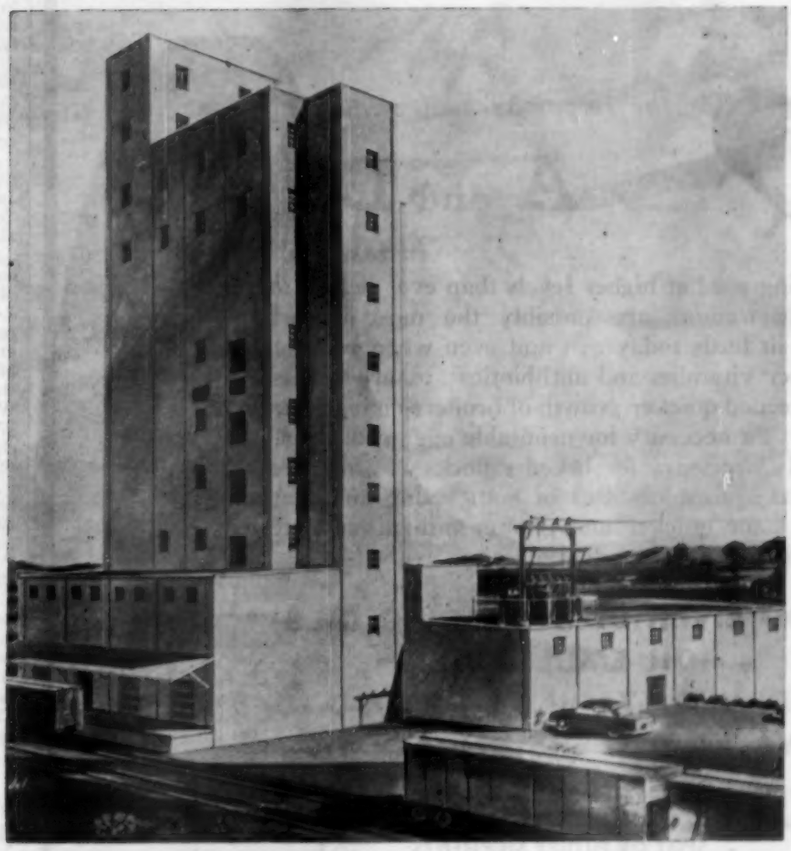
1112 Holmes Street Kansas City, Missouri

RED A FEEDS

We Are Happy to Announce

A BRAND NEW FEED MILL

RED A FEEDS



RED A FEEDS

AUBREY FEED MILLS NO. 4 IS JUST ABOUT READY TO WIDEN THE AUBREY SERVICE OF FAMOUS RED A FEEDS TO FEEDERS OF THE GREAT SOUTHEAST.

This mill is in addition to our three other Falls City mills and will assure prompt service to our many loyal customers of RED A FEEDS.

Since 1898

AUBREY FEED MILLS
LOUISVILLE 4, KY.
Serving the Great Southeast

● WE ALSO OFFER COMPLETE MIXED CAR SERVICE • GRAIN ●

listed unfair labor practices. . . . The AFMA conducted a membership drive to make the organizations more representative, and membership was up to 182 by December. . . . The soybean grew in popularity and acreage was up to 5 million. . . . The Texas Feed Manufacturers Assn. was organized. . . . Poultry feeds had been the salvation of the feed business, but dairy herds were being rebuilt, too. . . . A voluntary feed dealer chain, the Independent Feed Dealers Alliance, Inc., was formed in Minneapolis. . . . Southern farming trends showed less cotton, more food and feed crops and livestock.

The AFMA convention at French Lick was concerned with the end of NRA, national legislation and the proposed uniform feed law. H. L. McGeorge, Memphis, was elected president. . . . The Grain & Feed Dealers National Assn. criticized the New Deal and government interference in business. . . . The National Federation of Feed Associations, formed to handle NRA work, decided to continue in existence until at least the next meeting was called. . . . Little criticism of the proposed uniform feed bill was offered at the meeting of the Association of American Feed Control Officials. The officials were concerned also with a question of whether lists of ingredients in feed should be permitted to include the brand names of the ingredients. . . . The AFMA formed a committee on research and education to expand its service.

D. W. McMILLEN, formerly president of Allied Mills, reentered the feed business, with a company to be known as McMillen Feed Mills, Fort Wayne, Ind. Previously he had established Central Soya Co. . . . Earle McConnell bought the Quisenberry Milling Co. plant at Buffalo from the M. P. Reilly estate. . . . The Tarkio Molasses Feed Co., Kansas City, repaired its burned plant. . . . Universal Mills, Ft. Worth, planned a new mill after its plant burned. . . . A $400,000 fire destroyed the Stockton, Cal., plant of Taylor Milling Co. . . . The name of Tioga-Empire Feed Mills, Waverly, N.Y., was changed to Tioga Mills. . . . Nutrena Mills, Inc., leased the feed plant of Moore-Lowry Flour Mills Co. at Coffeyville, Kansas, and R. E. Whitworth was put in charge.

Norman E. Dewes left the U. S. Radiator Corp. to become advertising manager for Larrowe Milling Co., Detroit. . . . John L. Richardson was appointed advertising manager of Allied Mills, Inc., succeeding G. A. Holland. . . . Ora A. McCrea, manager of the Pillsbury Flour Mills feed department, was entertaining friends in the trade at his wilderness retreat for tired businessmen in northern Minnesota. Among guests were J. R. Stuart, Reliance Feed Co., Minneapolis. . . . R. Emil Barinowski, Feedright Milling Co., Augusta, Ga., was elected president of the Southern Mixed Feed Manufacturers Assn. . . . L. R. Hawley became advertising manager for Quaker Oats. . . . James H. Murphy, Murphy Products Co., Burlington, Wis., headed the Mineral Feed Manufacturers Assn. . . . J. T. Sexton reentered the feed brokerage business in Kansas City after being in the salt business. . . . J. A. Johnson was appointed manager of the MFA Milling Co. plant at Springfield, Mo. . . . E. A. Olson, Minneapolis, was elected president of the National Hay Assn. . . . Dr. J. W. Hayward of the University of Wisconsin was named to direct Archer-Daniels-Midland Co.'s new research division in animal nutrition. . . . George Albers, chairman of Albers Bros. Milling Co., retired from active business. . . . Fred W. Lake left the Farmers National Grain Corp. and joined Continental Export Co., Kansas City.

Deaths: Charles Dickinson, 77, Albert Dickinson & Co., Chicago, a flying enthusiast who for many years was the oldest pilot in America; John H. Ball, executive vice president of Southern States Co-op Mills; Charles F. Hawe, Chicago, pioneer in feed nutrition work.

AMERICAN ELEVATOR & GRAIN DIVISION
Russell-Miller Milling Co.
P.O. Box 157, Buffalo, N. Y., Phone MAdison 6007, Teletype BU 550
SHIPPERS CARLOAD LOTS—CHOICE WHEAT, CORN, OATS, BARLEY
TERMINAL ELEVATORS AT
BUFFALO — DULUTH — MINNEAPOLIS
New York Minnesota Minnesota

the importance of vitamins

A and D

in feeds today

Now being used at higher levels than ever before *these essential vitamins* are possibly the most important "musts" in feeds today . . . and even when considered with other vitamins and anti-biotics . . . are necessary for the needed quicker growth of broilers on high energy rations . . . a necessity for profitable egg production . . . extremely necessary for breeder flocks . . . for greater resistance against diseases of both young and mature stock . . . for quicker and greater utilization of feeds needed to attain these advantages.

COD LIVER OILS—FEEDING OILS
OIL-EMULSIONS
IMPROVED STABILITY DRY A-D_3-D_2
WATER DISPERSIBLE A and $D_{3/2}$

In potencies best suited for your specific requirements

SPOT OR FUTURE SHIPMENTS
IN ANY QUANTITIES
FROM DAYTON OR NEW YORK STOCKS

DAYTON OIL COMPANY
DAYTON OHIO
AND
GRAYBAR BUILDING, NEW YORK CITY

DAYTON vitamins A and D are not a matter of guesswork but the result of latest laboratory technique . . . plus rigidly maintained high quality . . . in potencies *you* can depend on. Ask your competitor . . . he's probably using DAYTON A and D

CONSISTENT PROGRESS

From an editorial in Feedstuffs in December, 1935: "One of the most promising aspects of the feed business during all the depression years has been the consistent progress in the study of animal nutrition and in the dissemination of the knowledge thus uncovered. Substantially more is known of the function of feeds, and by a considerably larger part of the industry, than was the case in 1929. The industry is constantly equipping itself better to serve its customers. In other words, it is not a moribund business that has reached the limit of its growth. It is growing in importance even in years that are unfavorable for growth. . . . There is ample warrant for confidence in the feed industry. It has, as a whole, splendidly withstood the time of stress and trial."

1936

Feed Business Shows Some More Improvement

After rising for the third straight year in 1935, farm income showed another gain in 1936, and feed business improved at the same time. Increased demand for farm products and higher prices the latter part of the year brought the gain. The higher prices were in part caused by the severe drouth in 1936, which was just about as intense as the 1934 drouth and even more widespread.

Federal production controls and processing taxes under the Agricultural Adjustment Act were declared unconstitutional, but the law of supply and demand did more than the government could do in boosting prices and income.

Drouth relief measures included government distribution of feed supplies and reduced freight rates on feeds. In addition, the feed industry played a big part in supplying feed, making cheap feeds to help maintain livestock. For example, cottonseed hull bran became popular as a molasses conveyor, and molasses was used as a substitute for corn. Many

Approximate comparative cost per unit of effective phosphorus delivered Mid-West

Soft Phosphate	**$2.33**
Bone Meal	6.65
Dicalcium Phosphate	4.41
Defluorinated Phosphate	4.43
Low Fluorine Rock Phosphate	3.92

Soft Phosphate

LOOK AT THE EVIDENCE

UNIVERSITY OF ILLINOIS

Supplements included in the test were two dicalcium phosphates, bone-meal, de-fluorinated rock phosphate, imported rock phosphate and Soft Phosphate.

Differences in percentage of phosphorus retained, between phosphorus supplements tested, between steers and between periods, were not significant. (Journal of Animal Science, Vol. 13 No. 4.)

PENNSYLVANIA STATE UNIVERSITY

Dicalcium phosphate and Soft Phosphate with colloidal clay were used as sources of supplementary phosphorus in two types of rations for growing-fattening pigs.

In each instance where these two materials were compared no significant difference appeared in the pigs with respect to gain in weight, inorganic phosphorus content of the blood, or ash, calcium and phosphorus content of rib bones.

Most of the results are simply comparisons of Soft Phosphate with dicalcium phosphate and the results indicate that under the conditions of these experiments Soft Phosphate can replace dicalcium phosphate in rations for growing and fattening pigs fed from weaning size to market weight.

It will pay you to get the real facts about Soft Phosphate and how you can save money on every ton of feed you make. These savings are REAL with no sacrifice in effective phosphorus utilization by poultry, cattle or swine.

ACT NOW—START SAVING SOONER

More than 2000 feed mills, large and small, are currently saving with Soft Phosphate. You can too. It costs nothing to get the facts. Let us help you reduce your ingredient costs.

WRITE

for sample, literature and delivered price. No obligation.

SOFT PHOSPHATE RESEARCH INSTITUTE, INC.

278 N. Lansdowne Ave., Lansdowne, Penna.

Cereal Byproducts Co.

has been providing impartial market coverage to the Feed Trade for 38 years

SERVICE is our JOB

Chicago St. Louis Buffalo Minneapolis
Kansas City Omaha

of the mixed feeds were cheaper than grain, and the industry was alert to the opportunity to sell balanced rations and boost sales. At the same time, feed men were warned not to pass off "shoddy" feeds as substitutes for feeds of proven worth and thereby damage the industry reputation.

THE ITINERANT truckers' problem continued to bother feed men, who sought control measures. . . . After a two-year struggle by the administration, the commodity exchange control bill was signed by the President. . . . Refunds of AAA processing taxes were being made. . . . Feed prices climbed as the drouth continued. . . . Grasshoppers threatened or damaged crops in some areas, and a good deal of bran was bought by the government for grasshopper bait. . . . Enforcement of Robinson-Patman Act began. . . . Grain exchanges organized the National Grain Trade Council, with W. B. Lathrop of Kansas City as president. . . . Feedstuffs warned editorially against the possibility of over-expansion of turkey production, with danger to feed firms financing turkey growers. (The crop then was about 20 million compared with 63 million in 1954.)

The AFMA held its convention in new surroundings, at White Sulphur Springs, W. Va. H. L. McGeorge, Memphis, was reelected president. While business had improved, economic problems continued, speakers noted.

The Grain & Feed Dealers National Assn., meeting at Milwaukee, was concerned about changing trends in political and economic thought, the drouth and other problems. It was decided to pay more attention to feed distributors, who had organized the National Feed Distributors Assn. again during NRA days after previously merging with the National. S. W. Wilder, Cedar Rapids, was reelected president.

At the Southern Mixed Feed Manufacturers Assn. meeting, manufacturers were urged by one control official to work for the merit system among control officials, with politics eliminated. Members criticized unfair feed taxes. Wayne Longmire, Knoxville, was named president. . . . Dr. E. E. Clore, Hoosier Mineral Feed Co., became president of the Mineral Feed Manufacturers Assn.

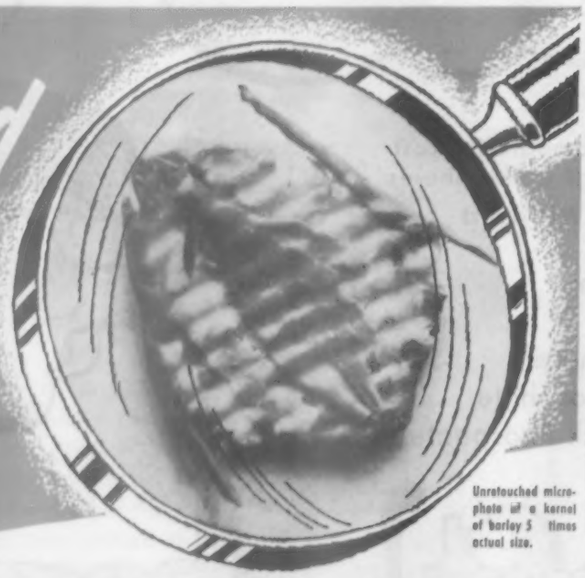
Definite progress toward uniformity in feed regulations was noted at the meeting of the Association of American Feed Control Officials when the group recommended the proposed model feed bill.

FIRE DESTROYED the Michigan Feed & Grain Co. plant at Detroit. . . . The Des Moines Oat Products Co., headed by Walter C. Berger, completed an addition to its plant. . . . The North Dakota State Mill & Elevator added a new feed mill. . . . Aubrey & Co., Louisville, bought the property of the Southern Feed & Grain Co. and remodeled it for a new feed plant. . . . Fire destroyed the plant of the Newsome Feed & Grain Co. at Pittsburgh; a new plant was bought at Louisville, Ohio. . . . Spencer Kellogg increased its soybean crushing capacity. . . . Allied Mills completed its "Atwood Jubilee Year" in honor of H. G. Atwood, president. . . . The property of Nutrena Feed Mills at Minneapolis (not the same as Nutrena Mills, Inc., Kansas City) was sold at auction to the only bidder, the mortgagee, Schreiber Milling & Grain Co., which had sold the plant in 1930. . . . Strikes hit flour and feed mills and elevators and other plants in the Minneapolis area, and in some other areas of the country, too. . . . Fruen Milling Co., Minneapolis, completed a plant addition.

E. J. Cashman left the Hormel Packing Co., Austin, Minn., to become vice president in charge of sales of the New Richmond (Wis.) Roller Mills. . . . Alfred M. Ghormley succeeded George Albers in active management of Albers Bros. Milling Co. with the title of president. Mr. Albers retired. . . . Frank A. Theis became president of the Simonds-Shields-Theis Grain Co., Kansas City, after the retirement of Fred C. Vincent. . . . Troy V. Cox was named vice president in charge of the feed division of Albers Milling. . . . C. F. Kieser left Kraft-Phenix Cheese Corp. to join the Borden Co., New York. . . . George E. Todd, Maritime Milling Co., Buffalo, was named president of the Northeast Feed Manufacturers Assn. . . . Charles Quinn resigned as secretary-treasurer of the Grain & Feed Dealers National Assn. and was succeeded by Ray Bowden, for several years secretary of the Northwest Country Elevator Assn. . . . Perc S. Brown was elected vice president of NOPCO.

Loyd M. Faris, Kansas City, was elected president of the National Hay Assn. . . . T. F. Yarger was elected president of General Mills' Farm Service Stores, Inc., succeeding Harry A. Bullis. . . . Roy N. Hall, Chicago, took over presidency of Central Sugar Co., Decatur, Ill.; also he became executive vice president of Central Soya Co. and McMillen Feed Mills, of

Moorspeed Rolled Grain...



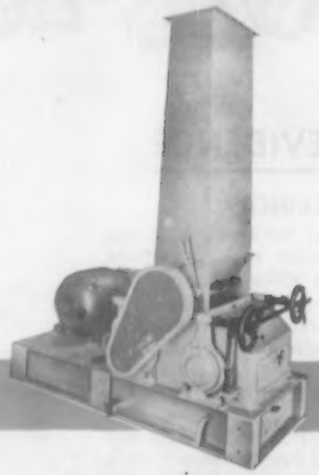
Unretouched micro-photo of a kernel of barley 5 times actual size.

GIVES MORE PROFITABLE FEED CONVERSION, FATTER STOCK

More and more quality-conscious, profit-wise feed manufacturers and mixers, nutritionists, and feeders insist that

Rolled grain makes superior feed

The magnified kernel of grain above was rolled and crimped in a MOORSPEED 18"x24" Roller Mill. Rolled grain such as this assures feeders full return on every feed dollar since full nutritional value necessary for maximum growth and gain is obtained from every kernel of grain. The husk on every kernel is broken open, thoroughly exposing the white nutrient "pearl." Unlike fine-particled grain, rolled grain will not "ball up" in the animal's stomach, and proper digestion is certain. Livestock prefer a coarse to a powdery feed consistency. As roughage, practically no grain is wasted as dust in processing and from having it blow away in plant conveying and open air feeding. Steam rolling has proven effective in controlling infestation.



For superior rolled grain, feed producers everywhere prefer the

MOORSPEED 18" x 24" ROLLER MILL

Noted especially for its ruggedness and economy for steam or dry rolling of barley, oats, wheat, corn, and milo and as crimping and flaking mills, the MOORSPEED is designed to deliver 3½ to 4 tons per hour of top quality product.

Let our experienced representative in your area show you how a MOORSPEED ROLLER MILL can increase your profits — or write us direct for free literature. No obligation whatsoever in either case.

OUTSTANDING FEATURES INCLUDE:

- Rigid, maintenance-free construction
- Solid, deep chill iron rolls
- New higher-capacity SKF self-aligning spherical roller bearings
- Fast, accurate, easy roll adjustment
- Manual throwout lever with lever lock

MOORE DRY DOCK COMPANY

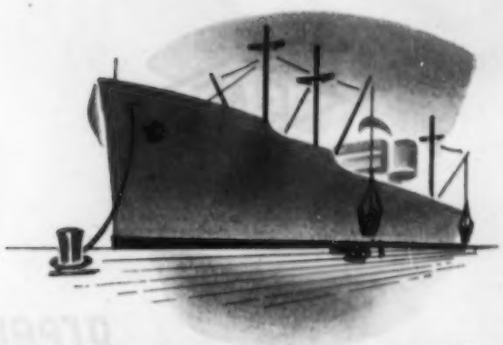
Long a standard of excellence in the West, over 400 Moorspeed Roller Mills are now in use throughout the United States and abroad. Following is a representative list of users:

Albers Milling Co. Oakland, Calif. & Seattle, Wash.
Tidewater Mill & Elevator Co., Philadelphia, Pa.
J. Schafer & Sons, Springfield, Ill.
Pillsbury-Globe Mills, Colton, Los Angeles & Stockton, Calif.
Aubrey Feed & Milling Co., Louisville, Ky.
Tanner Flour Mills, Bayfield, Colo.
Nutrena Mills, Memphis, Tenn.
Harvest Queen Mill & Elevator Co., Plainview, Texas
Dyer & Co., Kansas City, Mo.
General Mills, Tacoma, Wash.

FOOT OF ADELINE STREET • OAKLAND 23, CALIFORNIA

REPRESENTATIVES AND TERRITORIES:
PACIFIC NORTHWEST: REID-STRUTT CO., INC., 1015 S. E. Stark Street, Portland, Oregon
MOUNTAIN STATES: GALVESTON CORRUGATING WORKS, 232 Lucy Avenue, Salt Lake City, Utah
EAST, MIDDLE WEST and SOUTHERN U.S.A.: SPROUT, WALDRON & COMPANY, INC., 60 Logan Street, Muncy, Pennsylvania

all you want

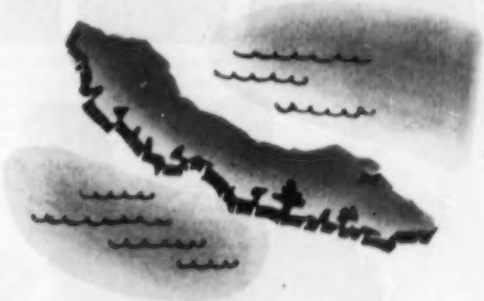


For generations to come the supply of Cura-phos will continue to satisfy the demands of the feed industry. Over one million tons of Cura-phos have been used by feed manufacturers since 1929. This is but a small percentage of the total Cura-phos supply. You can get all you want when you want it. Convenient 100 lb. bags in carload lots at stock points strategically located at Newark, N. J., Norfolk, Va., Jacksonville, Fla., and New Orleans, La.

best you can get

Cura-phos means highest quality. High biological availability of Cura-phos proven in practical test work on chicks. It's the feed manufacturers preferred source of phosphorus, has been for over 25 years. The quality of Cura-phos is, was, and will be, constant. There is no variation in grade. Each shipment of Cura-phos is guaranteed to contain a minimum of 14% phosphorus and 31% calcium, with not more than 00.5% fluorine. It's uniform in texture and has excellent blending characteristics. For the best you can get – get Cura-phos, the phosphorus of choice.

comes from here



Cura-phos comes from only one place in the world, the Island of Curacao in the West Indies. From this Island the natural inorganic material is loaded aboard modern freighters to provide uninterrupted supply service between the Island and the United States. This supply chain has never been broken and at no time have deliveries ever been curtailed. For quality and quantity get Cura-phos. Write today for a sample and further information.

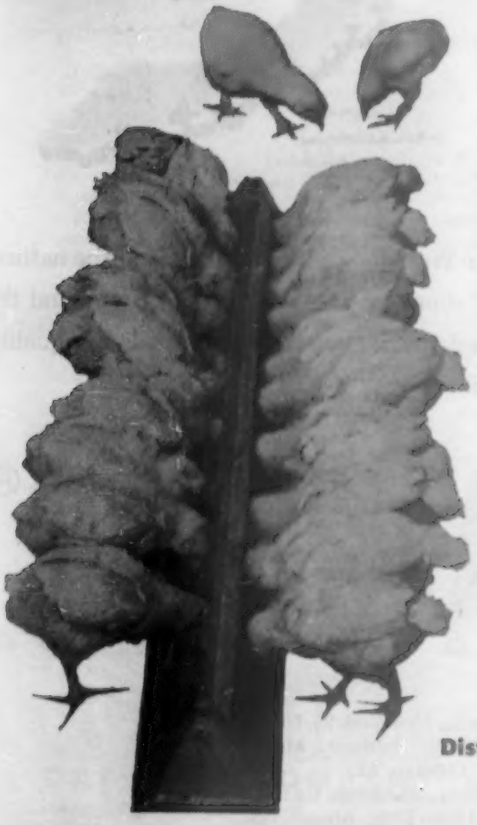
H. J. BAKER & BRO.
ESTABLISHED 1850

CURA-PHOS®

H. J. Baker & Bro., 600 Fifth Avenue, New York 20, N. Y.
Branch Offices: Maryland Trust Bldg., Baltimore, Md.;
208 South LaSalle St., Chicago, Ill.;
Savannah Bank & Trust Co. Bldg., Savannah, Ga.;
501 Jackson St., Tampa, Fla.; and Glenn Bldg., Atlanta, Ga.

greener feeds mean a much brighter profit picture

MERRY MIXER DEHYDRATED ALFALFA GREENULES



Finer greenules for better dispersion in mixing, smaller greenules for freer flow, precision control for uniform quality, proper blend and consistency to eliminate dust, deep green color for eye appeal – all add up to precisely what you need to increase the demand for your brand of mixed feeds.

MERRY MIXER precision quality control extends from crop selection in the richest alfalfa-producing area, for full nutritional measure and greatest eye appeal, to storage under inert gas for blending when ordered. Maximum Vitamin A, Carotene and mineral content are assured in this Nebraska-produced Dehydrated Alfalfa.

For satisfaction of all your requirements – *when you want them satisfied,* for ease of mixing, for maximum nutritional efficiency, MERRY MIXER Greenules are precisely what you need. Your Bradley & Baker sales representative will be glad to give you samples and complete information – ask him today.

Distributed by: BRADLEY & BAKER
155 EAST 44th STREET • NEW YORK 17, N. Y.

District Sales Offices: ATLANTA • INDIANAPOLIS • ST. LOUIS
NORFOLK • HOUSTON

Representing: CONSOLIDATED BLENDERS, INC., Fremont, Nebraska

"I like being a MURPHY dealer because MURPHY'S policy of not selling direct has helped me build a good feed business."

"We put a lot of extra effort behind promoting and selling the MURPHY line because we've learned that no matter how big the order, MURPHY won't short cut us by selling the feeder direct. MURPHY really protects its dealers.

"I can always count on the MURPHY man's help in making farm calls, setting up feeder meetings, sales meetings, or helping a customer who needs assistance with his feeding program. These are just a few reasons why I like being a MURPHY dealer.

"And here are the reasons my MURPHY customers give me for staying MURPHY customers:

1. MURPHY's lowers their feed costs.
2. MURPHY's cuts down feeding chores. It can be fed free choice to poultry, hogs and beef cattle.
3. MURPHY-fed stock are healthier—stay on feed.
4. MURPHY-fed stock produce more meat, milk and eggs per dollar of feed cost.

"For repeat business—for new business, MURPHY's is the feed for the retail feed dealer."

R. A. Shoemaker
Glidden Feed & Farm Supply
Glidden, Iowa

Hard-selling radio commercials on records—the same recordings MURPHY'S *use in their national advertising —are now offered to dealers for use on their own local radio stations. Musical, dramatic, and Lloyd Burlingham commercials are available. If you are interested in using these commercials to help boost your sales, write to Mr. Thomas C. Burchard, Vice President, Advertising, Murphy Products Company, Burlington, Wisconsin.*

MURPHY

PRODUCTS CO., BURLINGTON, WIS.

25th FEEDSTUFFS ANNIVERSARY

which D. W. McMillen is president. . . . George M. Palmer, president of Hubbard Milling Co., Mankato, Minn., celebrated his 83rd birthday and was at his desk as usual. . . . H. E. Babcock, general manager of the G.L.F. Exchange, took a leave of absence for rest and travel, and J. A. McConnell became acting general manager. . . . C. A. Coddington was elected chairman of Beacon Milling Co., and L. S. Riford advanced to president.

As the year ended, many farmers, despite invalidation of the AAA, still wanted legislation for production control. . . . Feed prices at the end of the year included Minneapolis bran $31.50, Milwaukee soybean meal $45.80.

Deaths: Frank G. Crowell, retired Kansas City grain man; Cornelius Lee Corcoran, Milwaukee grain and feed man; Leon Hoinowski, Broadway Milling Co., Buffalo; Frank J. Bradford, with Arcady Farms Milling and later with Vitality Mills; H. Lee Early, founder of Early & Daniel, Cincinnati.

1937

Business Stays Ahead Of Depression Pace

Feed tonnage in 1937 did not hold up quite to the 1936 level, but there was a comparatively favorable demand for farm products and the feed business continued well ahead of the pace which prevailed in the depths of the depression.

At the start of the year, the effects of the 1936 drouth were still felt in limited feed supplies, but later things were more normal. By late in the year, it was reported that farm income was virtually back to the 1929 level.

The AAA program was not re-enacted, but there was a crop insurance program, and the administration was pressing for legislation which would provide the "ever-normal granary," controls over crops, marketing quotas, commodity loans, etc. Members of the grain and feed trade and the legislative threats would put agriculture and the trade more strongly under federal domination than ever before. However, there seemed to be less general interest in special farm "schemes."

Some continued drouth relief measures were necessary; livestock numbers were reduced some after the drouth; the government bought eggs for a time to hold up prices; and government relief programs continued—but farmers and the feed industry faced 1937 in good spirits, and farmers could show a profit over higher feed costs by good feeding. "Parity" prices were reached and passed.

Feed men who continued to sell on price alone were out of step, for consumers were again more interested in quality and value.

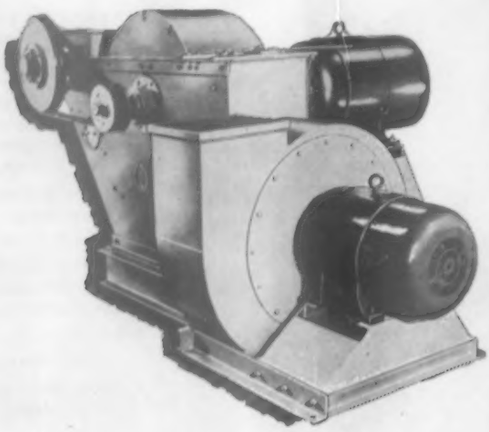
OTHER DEVELOPMENTS: Bran was bought again for grasshopper bait. . . . Mills along the Ohio River were damaged by floods. . . . Mill workers' unions were increasing their drives to organize grain and mill employees. . . . State bills were being sought or passed to regulate itinerant merchants and the "trucking menace." . . . With the passage of more fair trade acts in various states, the effects became more important to the feed industry. . . . Feed men got continued warnings about extending too much credit. . . . Some were protesting proposed federal wage and hour legislation. . . . There were prospects for increasing popularity of turkey as a year-around meat.

New feed regulations were being sought or adopted in various states. . . . College and industry cooperation was increasing. Cornell University held another nutrition school, with 166 persons present, 100% more than at previous schools. The first one was held in 1934. . . . The Federal Trade Commission indicated it intended to invoke the Robinson-Patman Act to abolish basing point price practices. . . . The Feed Bag sponsored National Feed Week. . . . Lipscomb Grain & Seed Co., Springfield, Mo., contended with a strike participated in by a few employees supported by outside organizers and armed "mobs." . . . The Northwest Feed Manufacturers Assn. was revamped into an organization including distributors as well. . . . Argentine corn was used for a time because of the 1936 drouth.

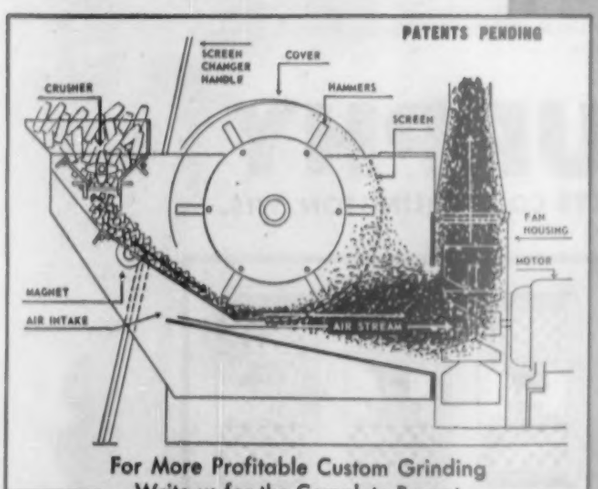
THE GROWING AFMA held its convention at Hot Springs, Va., with 300 persons present, the most in many years. The association set-up was changed, with Ralph M. Field, previously executive vice president, becoming president. The office of

FARMACEUTICALS . . .
Specifide's Word for Their
"Fine Chemicals for Fine Feeds"

Bryant
DOUBLE DUTY
HAMMERMILL
Makes Custom Grinding Profitable With



"STRAIGHT—THROUGH—AIR—FLOW"



For More Profitable Custom Grinding Write us for the Complete Bryant Double-Duty Story — We'll Send You a Copy

You grind faster - better and make more profit when you have full capacity. And you'll have that full capacity with a Bryant, because there is never any choking or plugging with the exclusive "straight-through-air-flow" design. The feed moves through the mill in a straight line — no air power lost from pulling the feed around corners. Feed is discharged directly into the eye of the fan through a large opening (16-1/4" on a 18" mill) which allows full use of the air power for taking the ground material away from the screen and out through the fan. Drawing at left shows "straight-through-air-flow" design, just another of the many advanced engineering features in the Bryant Double-Duty Hammermill.

Bryant DOUBLE DUTY HAMMERMILL

COMPLETE THE RATION WITH MINOSEA
A SPECIALLY SELECTED ATLANTIC KELP

"MINOSEA" is a specially selected Kelp harvested in the deep, cold waters of the Atlantic, vacuum dried by special machinery and ground to a meal form suitable for mixing with other ingredients — no chemicals or drugs are added. "MINOSEA" is rich in plant IODINE and ORGANIC MINERALS. The addition of 2% of "MINOSEA" will increase the efficiency of livestock and poultry rations.

Write for details and prices

FASTERFAT DIVISION
NATIONAL SEA PRODUCTS LTD.
HALIFAX - NOVA SCOTIA - CANADA

chairman of the board was created, and a manufacturer was to be elected to fill it each year. A. F. Seay, Purina, was named chairman in 1937.

Legislative threats, the menace of unregulated truck competition, and government agricultural policies were the chief concern of the Grain & Feed Dealers National Assn. at its Dallas convention. Otto Bast, Minneapolis, was named president.

Resolutions at the Southern Mixed Feed Manufacturers Assn. meeting condemned free deals, bonuses, premiums and other devices as wasteful competition. J. F. Weinman, Little Rock, was elected president. . . . Ralph Field told the Association of American Feed Control Officials that uniformity of regulations was as important as uniform feed laws.

Cereal By-Products Co. opened a Kansas City office with J. T. Sexton in charge. . . . Quaker Oats earnings in 1936 were the largest since 1931. . . . The Iowa Independent Feed Dealers Assn. announced a plan for financing sales of livestock feed, with Walter Berger in charge of the subsidiary which was set up. . . . Vitality Mills bought the mixed feed brands of Charles A. Krause Milling Co., Milwaukee, when that firm quit the feed business after a disastrous explosion. . . . Staley Milling Co., Kansas City, resumed operations after a three-month strike. . . . Ralston Purina built a second Canadian plant. . . . Ohio State University reported that dry ice was used successfully to preserve the freshness of chopped alfalfa. . . . Vita Vim Millers opened its new mill at Buffalo. . . . A new feed product was introduced which was a combination of young cereal grasses preserved in creamery buttermilk. . . . Allied Mills closed its biggest tonnage year, which was called "DeHaven Year" in honor of John B. DeHaven, executive vice president. . . . Food and Drug began inspecting vitamin D carriers used in poultry feeding. . . . McMillen Feed Mills doubled its plant capacity. . . . Allied Mills bought a plant at Memphis.

C. N. **BARRETT** left Northrup, King & Co., Minuneapolis, to join the National Oil Products Co. . . . John Lehman was reelected president of the Pacific Northwest Feed Assn. . . . Dr. W. G. Keehn and Neal Morehouse joined the technical staff of Salsbury's Laboratories. . . . Dr. W. C. Tully joined Sunset Feed & Grain, Buffalo. . . . David J. Bunnell became a vice president of Central Soya. . . . E. W. Stuhr left Archer-Daniels-Midland, Buffalo, to take an executive post with G.L.F. Mills. . . . Dr. Victor Heiman of Washington State College went with Kasco Mills, Waverly, N.Y. . . . Otto O. Sarvella became general sales manager of G. E. Conkey Co. . . . Clifford B. Dounce was named president of Tioga Mills, Waverly, N.Y. . . . James A. McConnell was appointed general manager of G.L.F. . . . Dr. J. E. Hunter left Pennsylvania State College to become research director for Allied Mills. . . . Dr. Max Markley left the University of Minnesota to join Cargill, Inc., Minneapolis. . . . Herman Nagle, long prominent in the feed industry, joined the Iodine Educational Bureau. . . . Lyman Peck, previously with Merck & Co., became nutritional director of McMillen Feed Mills.

Deaths: J. F. Lonergan, Park & Pollard, Buffalo; A. C. Barbeau, S. Howes Co.; George Albers, Albers Bros. Milling Co.; Albert B. Conkey, G. E. Conkey Co.

v v

1938

Real Prosperity Still Around the Corner

The year 1938 found that prosperity was still somewhere around the corner. After improving to a peak in 1937, general business conditions slacked off that same year. By the middle of 1938, things were looking up again somewhat, and USDA said the low point in demand for farm products had been reached.

Statistics showed feed dollar volume for 1937-38 was down considerably, but this was largely because of considerably lower prices. Sharp price drops had come with the big 1937 grain production. Feed tonnage held up pretty well, and for the calendar year 1938 it was not much below 1937.

Meanwhile, the government continued its farm relief and price propping. The new farm bill was the most far reaching ever considered, involving acreage controls, marketing regulations, commodity loans and other activities. There also was federal buying of poultry and dairy products. For the year, farm cash income was down 11%.

Price relationships were fairly good for livestock and poultry producers, output of some of these commodities was increasing, and the outlook was improving, particularly later in the year, as there was some pick-up in industrial activity. All

LABORATORY CONTROL SERVICES

Feeds — Gossypol
Nitrogen solubility — Vitamin A
Nitrophenide — Stability tests for fats
Diethylstilbestrol

WOODSON-TENENT LABORATORIES
Official Chemists

265 So. Front St., Memphis, Tenn. — 1514 High St., Des Moines, Iowa
9 So. Clinton St. Bldg., Chicago, Ill. — 42 West 7th St., Little Rock, Ark.

"Over ONE BILLION *Dollars Worth of Products Analyzed Since 1935"*

Brewer's Dried Yeast Makes Significant Contribution to—

OPTIMUM NUTRITION

THE MODERN CONCEPT IN FEED FORMULATION

Progressive research is demonstrating amazing opportunities of optimum nutrition in animal production. Balanced rations with MORE THAN ADEQUATE levels of essential nutrients result in new heights of feed efficiency, sharply reduced growing time, and effective prevention of unnecessary losses due to dietary deficiencies. Diets are predicted for the not too distant future which will exceed by far conventional rations of today in economy and efficiency.

Independent research at Agricultural Universities, Colleges and Experiment Stations has confirmed the value of BREWER'S DRIED YEAST for

. . POULTRY, broilers, turkeys, geese, ducks and game birds
. . CATTLE and PIGS, especially young animals and breeding stock
. . MINK and other FUR BEARERS
. . FISH and BEES

as a source of certain unidentified factors, indispensable for optimum nutrition, in addition to its high quality protein, vitamin B complex and essential minerals.

Recent feeding experiments have demonstrated BREWER'S DRIED YEAST to contain

Two Unidentified Growth Factors in significant levels of potency and somewhat less of a 3rd.

Unidentified Factor preventing leg weakness and swollen hocks in poultry and possibly similar deficiency symptoms in four-footed animals. This factor is NOT replaceable by present anti-oxidants.

Unidentified Factor, similar in function to vitamin E in certain fundamental metabolic processes.

Those are the reasons why leading nutritionists—on the basis of their own findings—include BREWER'S DRIED YEAST in their feed formulas.

BREWER'S DRIED YEAST can give your feeds the MORE THAN ADEQUATE nutritive value that is required for optimum nutrition.

BREWER'S DRIED YEAST is the only yeast grown on an all-grain medium by anaerobic fermentation.

THERE IS NO SUBSTITUTE FOR GENUINE BREWER'S DRIED YEAST

BREWERS YEAST BYC COUNCIL

WRITE FOR FREE BOOKLET AND FORMULAS TO

BREWERS YEAST COUNCIL, Inc.
605 N. Michigan Ave., Chicago 11, Illinois

this meant that feed business was helped along, and prospects brightened.

Grain crops were down from the previous year, but supplies were still large and feed prices were relatively low.

OTHER DEVELOPMENTS: A control official criticized a tendency toward more complicated formulas. He said egg mashes averaged nine ingredients in 1920, and 21 in 1937. He claimed the additions were made to give a talking point. . . . A special committee was named to work out more satisfactory standards to measure relative feeding values of feeds. The president of the American Society of Animal Production said it might change the basis from total digestible nutrients to productive or energy value. . . . The "Joe Brooks" feature started in Feedstuffs.

The federal wage-hour bill, providing a minimum wage of 25¢ an hour and a maximum work week of 44 hours, was passed, and there were a lot of questions on just how it would apply. An "area of production" exemption was provided. Later, states made preparations to adopt similar laws. . . . More universities started nutrition schools for feed men. . . . National Feed Week was celebrated again. . . . More regulations were sought for "itinerant gypsy" truckers. . . . Soybean meal production increased, as did alfalfa dehydrating. . . . Bran buying and grasshopper drives continued. . . . One association inaugurated an "honor roll" plan which involved agreement to patronize only dealers adhering to certain trade practices; and another group planned to expel any member violating certain practices.

A nutritionist said that too much emphasis was being put on vitamins, that other good ingredients were needed, too. . . . Feedstuffs said editorially that feed manufacturers could not, under current conditions, maintain resale staffs to get farmers' orders and lay them in the dealer's lap. Manufacturers were looking for dealers who were students of feeds and feeding, who would not only fill orders but originate them.

Call

Van Dusen Harrington Co.

for Barley, Oats, Corn

BUSINESS FOUNDED 1852

MINNEAPOLIS DULUTH

DECENTRALIZATION

From an editorial in Feedstuffs of Nov. 5, 1938: It is not intended to argue whether the trend toward decentralization in mixed feed manufacture is for better or for worse. A great deal could be said with sincerity on both sides of that question, and only time and conditions will settle it, after all. That there is such a trend can hardly be disputed, however, and if the small mixers allow themselves to be governed by carelessness or inattention to the science of feed manufacture, they not only are going to injure themselves but they are going to hurt the entire feed industry and substantially retard the progress which that industry has made during the past 10 or 15 years.

THE AFMA convention moved back to French Lick Springs and drew a record attendance of 340. Speakers included Dr. E. B. Hart of Wisconsin and Dr. L. C. Norris of Cornell. There also were discussions of credit and trade practices. A. F. Seay, Purina, was reelected chairman.

The Southern Association of Feed Control Officials was organized at a meeting of food, feed, drug and health officials of the South; uniform standards of feed analysis were adopted. . . . The Grain & Feed Dealers National met at Toronto. Speakers condemned destructive government regulations, unregulated trucker competition, a trend toward "collectivism."

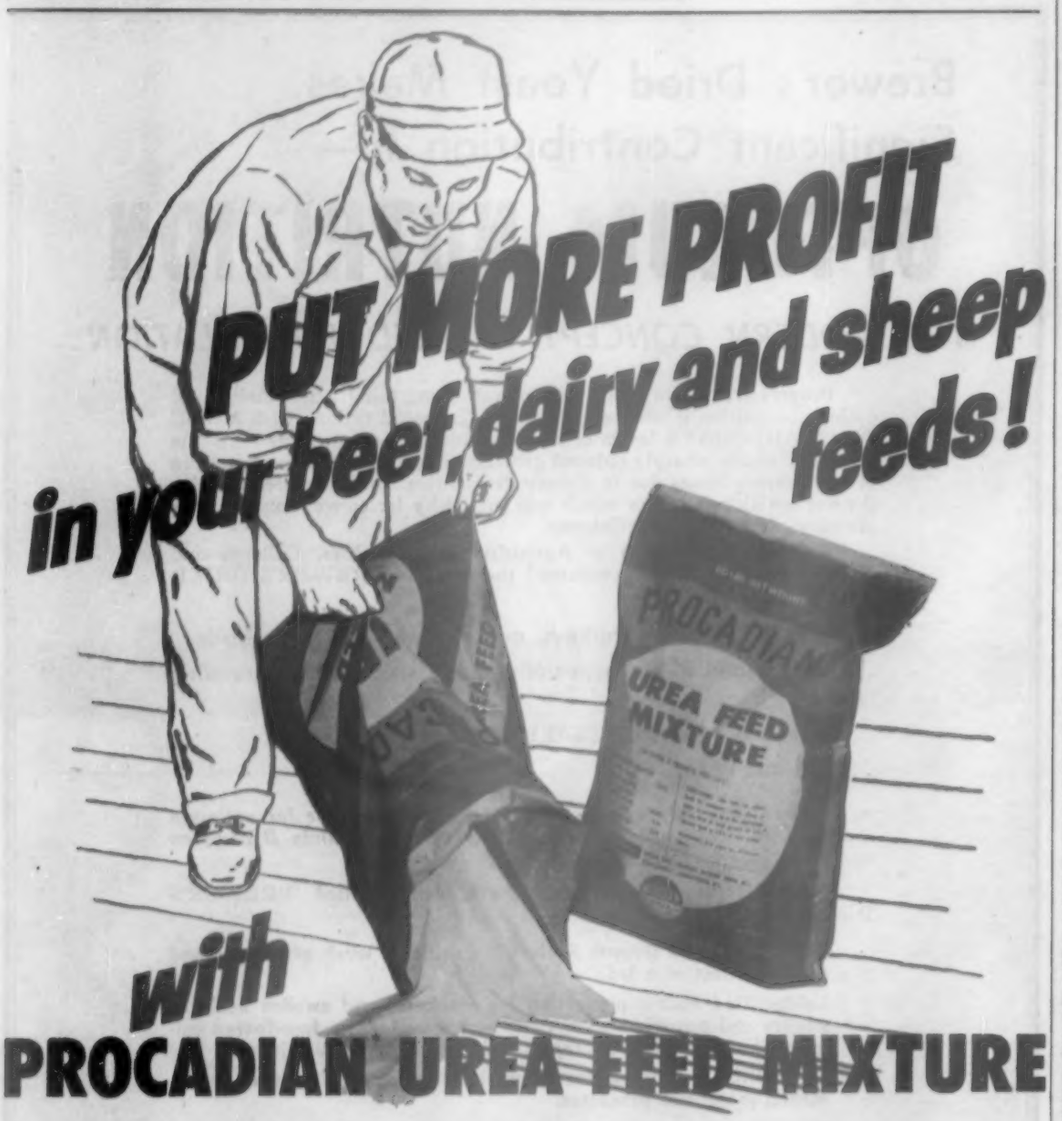
At the national control officials' meeting, feed law uniformity was stressed again. Ralph Field of AFMA said that diversion of feed taxes hurt control work, that uniform registration blanks were needed, that manufacturers continued to back the model feed bill.

ARCHER - DANIELS - MIDLAND, Minneapolis, leased the feed plant formerly operated by Dickinson Feed & Seed, and George Smith joined ADM at the same time. . . . Apple River Mills, subsidiary of King Midas, Minneapolis, bought the feed plant of Brooks Milling Co. . . . Russell May bought Quisenberry Feed Products Co., Kansas City, and operated it as May Way Mills. W. L. McGehee, who was general manager of Quisenberry, planned to devote his time to his recently patented dehydrator. . . . General Mills and Eastman Kodak formed a new corporation, Distillation Products, Inc., to make concentrated vitamins. . . . Old Fort Mills built a feed plant at Harrisburg, Pa.

Fire destroyed the plant of the Fernando Valley Mill & Supply Co., Van Nuys, Cal. . . . Pacific Molasses planned another new plant at Stockton, Cal. . . . After a year's fight, Lipscomb Grain & Seed Co., Springfield, Mo., granted most demands of union organizers and signed a contract. The strike attracted wide attention because of violence which developed

Edgar Markham resigned as executive secretary of the National Grain Trade Council. . . . Maurice E. Cook was named advertising manager for the McMillen firms. . . . Louis F. Brown resigned as executive secretary of the Mineral Feed Manufacturers Assn.; previously he was with AFMA for many years. . . . John H. Barton was elected president of NOPCO, succeeding Charles Gulick, who was named chairman. . . . Gene Morris went into business for himself in Minneapolis, handling as a principal item cod liver oil. . . . The Poultry Science Assn. granted Dr. L. C. Norris of Cornell the first Borden award for poultry research. . . . Lloyd

(Continued on page 146)



The feeds that pay off better for you and your customers—the ranchers, farmers and feeders—are the ones you formulate with PROCADIAN UREA FEED MIXTURE. This valuable, low-cost source of protein also helps ruminant animals break down and digest coarse roughage. PROCADIAN UREA has won a deserved spot in rations for cattle and sheep because it is readily available and reasonable in cost. Take full advantage of the usefulness of Urea by ordering PROCADIAN UREA FEED MIXTURE regularly for your full line of quality ruminant feeds.

*Trade-mark

ORDERS ARE FILLED PROMPTLY whenever you need PROCADIAN UREA—from plants at Omaha, Nebraska and Ironton, Ohio and from warehouse stocks at Indianapolis, Indiana and Fort Worth, Texas.

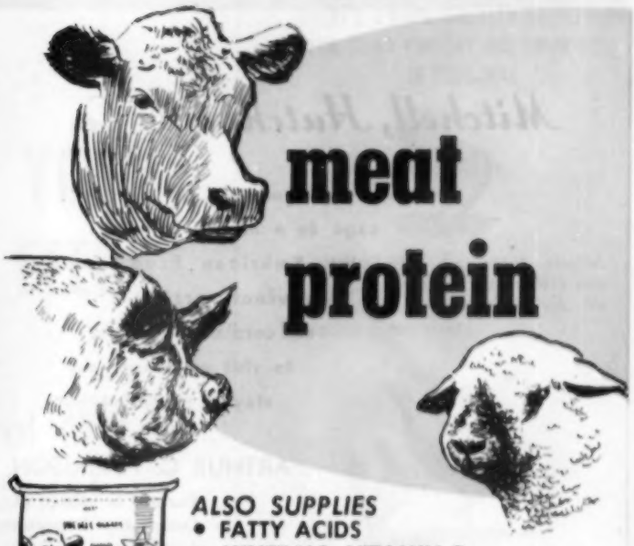
GET FAST SERVICE
write or telephone NOW!

NITROGEN DIVISION
Allied Chemical & Dye Corporation

P.O. Box 166, Omaha 7, Neb.	Bellevue 1464
P.O. Box 98, Ironton, Ohio	Ironton 8-4366
6060 College Ave., Indianapolis 20, Ind.	Broadway 5443
1095 Market St., San Francisco 3, Cal.	Hemlock 1-0920
133 Carnegie Way, N.W., Atlanta 3, Ga.	Walnut 7805
1203 Gervais St., Columbia 1, S. C.	Columbia 3-6676
P.O. Box 28, Hopewell, Va.	Hopewell 6366
1151 South Broadway, Los Angeles, Cal.	Richmond 7-7251

STABILIZED ANIMAL FATS

IN POULTRY DOG and LIVESTOCK FEEDS



meat protein

ALSO SUPPLIES
- FATTY ACIDS
- MINERALS, VITAMIN B_{12}
- RIBOFLAVIN, NIACIN and
- those UNIDENTIFIED GROWTH FACTORS now considered a necessity in Poultry and Hog feeds.

BOOST FEED EFFICIENCY!

The fact that a majority of the papers presented at the recent meeting of the National Poultry Science Association were on the subject of Animal Fats in feeds indicates the high level of importance assigned to fats by poultry nutritionists.

A series of broiler feeding tests recently completed at the University of Maryland on a special strain of broilers using stabilized animal fats at 10%, 12½% and 15% of the total ration and with protein at 24%, 24.6% and 25.7% and 27.1% levels produced marvelous results in feed efficiency. In 7 weeks and 3 days, three-pound broilers were produced on feed required per pound of gain of only 1.72 pounds with 10% stabilized animal fat and 24% protein; and 1.69 pounds of feed per pound of gain when 15% of stabilized animal fat and 25.7% protein were used.

Commenting on broiler feeding tests made with high levels of animal fats in the feeds, Dr. Slinger of the Department of Poultry Husbandry, Ontario Agricultural College, Guelph, Ontario, says: "The use of high levels of fat could revolutionize the present concepts of efficiency in broiler production".

Stabilized animal fats have also been used at relatively low levels to very good feeding advantage in dog foods and in cattle and hog feeds. As a result, increasing numbers of feed mills are producing feeds containing animal fats.

The advantages possessed by feeds containing animal fats can be set down as follows: (1) Such feeds are more palatable; (2) they are not dusty; (3) they contain more energy; (4) reduce necessary feed intake; (5) have increased feeding efficiency; (6) reduce feed costs; and (7) boost feeding profits.

Dr. A. R. Patton, Chemistry Department, Colorado A&M College says: "In general animal proteins are better feeds for animals than plant proteins. Their amino acid make-up more nearly matches that of the animal tissues to be built. Quite aside from this, animal proteins also tend to contain more minerals and vitamins than plant protein feeds, and part of the superiority of animal protein is due to these factors".

Another point in favor of meat proteins is that they contain vitamin B_{12} and other unidentified meat protein factors. Also, the minerals in meat scrap are non-toxic and readily absorbed by the digestive tract.

Much research has shown that a balanced combination of vegetable and animal proteins produces the best feeding efficiency, other factors being correct and to the same levels. Then too, meat scrap—50% protein—generally provides protein at a lower cost per pound than linseed oil meal or soybean oil meal.

And here are other Plus Values provided by meat scraps:

32 times the Calcium—6 times the Phosphorus
2 times the Riboflavin and Niacin—and 18 times the Fats found in vegetable proteins . . . and in addition other unidentified meat protein factors.

There are just a few of the reasons why you cannot go wrong by using meat scraps in feed formulations. Better feeders recognize the value of meat protein and want it in their feeds.

Write for Data on Stabilized Animal Fats and Meat Protein, TODAY!

RENDERERS ASSOCIATION NATIONAL

Organized in 1933

NATIONAL RENDERERS ASSOCIATION

30 N. LA SALLE ST. Phone FR 2-3289 CHICAGO 2, ILL.

Mitchell, Hutchins & Co.

welcomes you to Chicago as a member of the American Feed Manufacturers Assn. and cordially invites you to visit us during your stay at the convention.

ARTHUR C. HARRISON
Partner in charge of Commodity Department

231 S. La Salle St.
Chicago 4, Ill.
ST. 2-1700

One Wall St.
New York 5
DIgby 4-0700

MEMBERS
Chicago Board of Trade
Memphis Board of Trade
New York Stock Exchange
and Other Principal Commodity and Security Exchanges

CONGRATULATIONS...
to Feedstuffs on its 25 years of service

Yes
The Best Bet is
Mayo's
"Snow-Flake"
OYSTER SHELL

WRITE—WIRE—PHONE
MAYO SHELL CORP.
P.O. Box 784 HOUSTON TEXAS OR-9441

Industry Veteran Recalls Major Developments

One of the feed industry veterans and a leader of the industry over the years is E. G. Chermonnier, now feed advisor for the Grain & Feed Dealers National Assn. Recalling some of the important industry developments of the past 25 years, Mr. Cherbonnier lists these points:

● Low grain prices in the depression of the early 1930's made supplements for farm grains more important and more economical. Up to that time few mills had a strong supplement program. Beginning with 1932-33, in areas where feed grains are in surplus, manufacturers and local custom grinders established a team-work for making the farmer's home grain more valuable.

● In the terrible drouths of 1934 and 1936, most of the feed mills serving the stricken areas made special maintenance feeds designed to keep the animals alive at the lowest possible price. These special feeds were sold and distributed at practically no profit.

● The development of pellets made it possible for the rancher to feed a balanced ration, rather than straight cake. He had not been able to use meal feeds efficiently on the range but pellets solved his problem. They also increased efficiency in poultry feeding.

● Work with the colleges has taken tremendous strides. The larger mills have trained college men in their research work and the smaller companies attend nutrition and service schools held by the state colleges.

● The industry has worked closely with feed control officials developing regulations that protect the farmer and the honest manufacturer.

● During World War II the allocation of supplies by the Department of Agriculture brought to light an amazing lack of understanding of the feed business by government officials. From a stormy period of a year or so, there developed cooperation and team-work that had a favorable effect on food production.

● Another outstanding point is the speed with which state and federal research work is applied to farm practice. If our public experiment stations had to depend on extension services alone to put better feeding methods into effect, it would take many times longer than the short period that now lapses between research and its application.

● The many by-products used in feed were at one time accepted "as is"—today the value of the by-product is such that its producer is willing to make it according to the needs of the feed industry. Synthetic materials now play an important part. Urea, several amino acids and now a synthetic hormone ar examples of what the future may hold in store.

● Last, and certainly not least, is the remarkable development of the exchange of information of all kinds between competitors. The old idea of trying to out-smart your competitor has changed into one of trying to outserve him with the dealer and farmer and with the free exchange of methods, as demonstrated at the Midwest Production School and at the various scientific gatherings.

Pacific Northwest Grain Dealers to Meet June 17

SPOKANE, WASH.—The 34th annual convention of the Pacific Northwest Grain Dealers Assn. will be June 17 at the Davenport Hotel in Spokane.

A program of varied interests, plus the annual banquet and entertainment, is being planned.

CONTACT YOUR NEAREST NOPCOSOL DISTRIBUTOR

Thomas H. Avery
Le Roy, N.Y.
Tel: Number One

A. G. Greene Company
Commercial National Bank Bldg.
Charlotte 2, N.C.
Tel: EDison 2-2174

Kingsley-Erb and Company
60 Alta St.
Arcadia, Calif.
Tel: DOuglas 7-6757
RYan 1-9782

Kuder Pulp Sales Company
Lake Alfred, Fla.
Tel: 2-9451, 2-8112

M. & D. Sales Co., Inc.
East Market St.
Snow Hill, Md.
Tel: 281

Maney Bros. Mill & Elevator Co., Inc.
Minneapolis 4, Minn.
Tel: PArkway 9-2351

P. R. Markley, Inc.
212 Lafayette Building
Philadelphia 6, Pa.
Lombard 3-6838

Merchants Chemical Co., Inc.
605 Leavenworth St.
Omaha 8, Neb.
Tel: Atlantic 4755

Nappanee Milling Co., Inc.
Nappanee, Ind.
Tel: 600

Pless and Sheahan
Suite 728 M&M Bldg.
Memphis 2, Tenn.
Tel: 8-5746

Edward E. Smith & Co.
Glenn Building
Atlanta, Ga.
Tel: Walnut 8417-8418

Van Waters & Rogers, Inc.
10216 Denton Rd.
Dallas 9, Tex.
Tel: Fleetwood 77331

NOPCO

NOPCO CHEMICAL COMPANY

LET NOPCOSOL® M-7 FORTIFY YOUR TURKEY STARTER AND GROWER FEEDS

Just mix one 10-lb. bag of Nopcosol M-7 in a ton of feed and the job is done!

One 10-lb. bag (that's all!) completely fortifies a ton of turkey starter or grower formula with all the supplementary vitamins, antibiotics, and trace minerals required in these critical feeds. And Nopcosol M-7 is truly modern. It sets an unbeatable standard for high levels of vitamins, trace minerals, and growth stimulants. It includes vitamin E, essential for prevention of crazy chick disease and hock disorder. (Vitamin E also has an important influence on hatchability).

One of the advantages of fortifying with Nopcosol is that it simplifies your mixing job. It eliminates the task of stocking and mixing microscopic quantities of supplementary ingredients. When you supplement the easy Nopcosol way, the whole job is done for you, accurately, scientifically, and economically.

THERE'S A NOPCOSOL FEED SUPPLEMENT FOR EVERY POULTRY AND SWINE FEED IN YOUR MILL

Nopcosol M-5 for chick starter, broiler, and grower feeds. Mix one 10-lb. bag to a ton, that's all. No premixing, no waste.

Nopcosol M-6 for chicken layer and breeder, and turkey breeder feeds. Nopcosols are easy to store and easy to handle.

Nopcosol M-8 for swine feeds and supplements. A truly reliable supplement to maintain high levels of essential nutrients in hog feeds.

Nopcosol M-9 for high energy broiler mashes. The truly modern broiler supplement.

Nopcosols are guaranteed. Feeds fortified with Nopcosol are guaranteed to be vitamin-potent *when fed*. This unique guarantee is your assurance of customer satisfaction.

For further details on how to simplify feed fortification, send for the booklet "New, improved Nopcosol Vitamin Supplements."

NOPCO

NOPCO CHEMICAL COMPANY

Harrison, N.J. • Richmond, Calif.

NOPCO CHEMICAL COMPANY
100 Front Street, Harrison, N.J.

Please send me the booklet "New, Improved Nopcosol Vitamin Supplements"

*Name*_____

*Firm name*_____

*Address*_____

*City*_____ *Zone*____ *State*_____

Basic producers of Micratized® (truly stable) Vitamins A and D, niacin, calcium pantothenate, choline chloride, and other products

Here Are The Challenging Facts About

PERMADRY*

THE LEADING

STABILIZED "Sealed-in" DRY VITAMIN A PRODUCT

* U.S. Patent No. 2496634 Reg. Trade Mark

Controlling the quality of the PERMADRY fat in our Laboratory.

Measuring by Colorimetric test PERMADRY Vitamin A stored in chicken livers.

1 THE ONLY DRY VITAMIN A PRODUCT WITH THE VITAMIN SEALED IN STABILIZED FAT

Nutritionists agree that fat is the desirable vehicle for Vitamin A, a fat-soluble vitamin. Fat protects Vitamin A in the digestive tract and facilitates absorption of the vitamin. Yes, even the material used to seal in this important vitamin is a high-caloric form of nutrition. Does your present product furnish fat-soluble Vitamin A dispersed in an absorbable fat medium? If not — Why not?

2 THE ONLY DRY VITAMIN A PRODUCT IN BEAD FORM USING HYDROGENATED EDIBLE FAT AS THE SEALING-IN MATERIAL SUPPLEMENTED WITH FAT-SOLUBLE ANTIOXIDANTS AND AN EDIBLE EMULSIFYING AGENT.

This means stable Vitamin A all the way through — when you obtain it, even after prolonged storage in your feeds (or feed concentrates). All this with the utmost in availability and feed efficiency. Are you sacrificing feed efficiency for stability in the product you are now using?

3 THE ONLY DRY VITAMIN A PRODUCT WITH NUTRITIONAL ACTIVITY FAR IN EXCESS OF THAT FOUND BY PHYSICO-CHEMICAL TESTS.

The Vitamin A in PERMADRY is sealed-in in such a manner as to protect it during the early processes of digestion and yet it is liberated and completely available at the proper site for absorption in the gastro-intestinal tract, as evidenced by liver storage experiments. What is the nutritional story behind the product you are now using?

S+A=FE

STABILITY + AVAILABILITY = FEED EFFICIENCY

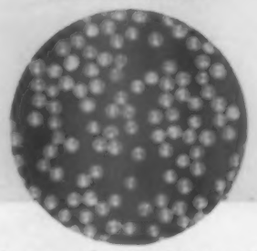


PHOTO-MICROGRAPH of PERMADRY BEADS (magnified)

4 THE FIRST AND ONLY DRY VITAMIN A PRODUCT TO GUARANTEE THE SAME VALUE BY SPECTROPHOTOMETRIC and COLORIMETRIC ASSAY.

Physical and chemical tests have limitations. There are other materials which behave like Vitamin A in the spectrophotometric (absorption of light at 325 mu.) test. There are other materials besides Vitamin A which react with antimony trichloride to give a blue color. There is only one material — *nutritionally active Vitamin A* — which gives the same value by the two test methods. PERMADRY Vitamin A, at all times, assays out to the same value by these two unrelated test methods. Will the Vitamin A product you are now using give the same value by spectrophotometric and colorimetric assay, testing before and after storage of the product?

Double checking PERMADRY Vitamin A potency by Spectrophotometric test before confirmatory Colorimetric assay in our own control laboratory.

Write us for a compilation of the results of tests on PERMADRY made at leading universities and independent, nationally recognized laboratories.

FOR BEST RESULTS, IT PAYS TO USE PERMADRY

STABILIZED VITAMINS, INC.

57-59 Commerce Street Brooklyn 31, New York

HERE ARE THE OBVIOUS and CONTINUING REASONS for

PERMADRY*

*U.S. Patent No. 2496634 Reg. T.M.

SUPERIORITY

1. STABILITY OF VITAMIN A

- PERMADRY Vitamin A stability is unsurpassed by any other form of Vitamin A used in feed.
- Carry-through Vitamin A stability in regular feeds is excellent under all prevailing adverse conditions.
- Carry-through Vitamin A stability is maintained in pellets, crumbles, cubes, and even in biscuits.
- Carry-through Vitamin A stability has been proven in mineral mixes and highly mineralized feed concentrates.
- PERMADRY also protects ingested Vitamin A against destructive elements in the upper gastro-intestinal tract.

ALL WARDED OFF BY PERMADRY

2. BIOLOGICAL SUPERIORITY

Work at leading University Experiment Stations and independent laboratories emphasizes the following advantages of PERMADRY.

- Improved growth rate and feed efficiency.
- Reduced mortality due to increased resistance to stress factors.
- Increased Vitamin A storage in the livers.
- Increased egg production.
- Increased biologically-active Vitamin A reserves in the egg.

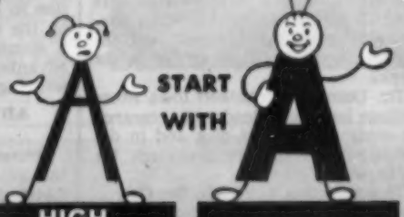
All the above results were demonstrated versus commonly used alternate Vitamin A materials.

AVAILABILITY

3. IMPORTANCE OF THE CONCENTRATION OF VITAMIN A-ACTIVE MATERIAL IN WHAT YOU BUY.

- The Vitamin A furnished by PERMADRY is contained in *digestible* oil-soluble "beads" uniformly fortified with Vitamin A to levels of about 40,000 units per gram. PERMADRY will furnish 5 to 10 times respectively more Vitamin A "bead material" (Vitamin A-Active) per ton of feed than will high concentrates of 250,000 to 500,000 units per gram when added to feeds to supply the same desired vitamin A unitage.
- For instance, 10,000-A PERMADRY contains about 25% vitamin A-active edible fat, the remainder being high protein soy flour and meal. On the other hand, if for making the same 10,000-A PERMADRY, concentrates as high as 250,000 units per gram were used . . . *only 4% by weight* of Vitamin A-active beads would be present when finally ready for feed fortification. PERMADRY has refused to economize at your expense in furnishing you with a half-way product . . . one which you yourself have to complete by blending down the unreasonably high concentrates to practical use levels and you yourself have to assume the full responsibility for the pre-mix.
- PERMADRY supplies a greater amount of Vitamin A-active material without prior pre-mixing. This relieves you of the otherwise mandatory rigid uniformity control of pre-mixes and responsibility connected with the blending of high potency concentrates with carrier material.

ECONOMY



REQUIRED PREMIXING

WHAT FILLER?
WHAT MIXER?
HOW LONG?
UNDER AIR?

ANALYTICAL CHECKING?

UNIFORMITY CONTROL?

ADJUSTMENT OF POTENCY?

FILLING, WEIGHING, & BAGGING

SETTLING A PROBLEM?

PACKING UNDER INERT GAS?

VITAMIN STABILITY AFFECTED BY YOUR OPERATIONS?

MANUFACTURER'S GUARANTEE?

% VITAMIN A-ACTIVE MATERIALS?

READY TO USE?

PERMADRY TRAVELS AN UNINTERRUPTED DIRECT PATH FROM BASIC MANUFACTURER TO USER . . .

ECONOMY AT WHOSE EXPENSE?

PERMADRY goes all the way until absorbed. Availability proven by many tests.

A STRAIGHT LINE IS STILL THE SHORTEST DISTANCE BETWEEN TWO POINTS.

*PERMADRY is the only product which furnishes high energy fat and Vitamin E at no extra cost along with the guaranteed amount of Vitamin A.

STABILIZED VITAMINS, INC. 57-59 Commerce Street Brooklyn 31, New York

Economics of Early Weaning Baby Pigs

Dr. Damon Catron Prepares Chart to "Figure It Out for Yourself"

One of the modern developments in swine feeding has been early weaning of baby pigs.

In some cases, pigs may be weaned when they are as young as two weeks. In other cases, farmers may wean their pigs at three, four, five or six weeks, as compared with the age of eight weeks which has been standard for a long time.

Many of these programs involve use of special pre-starter and starter feeds.

At any rate, although recommendations vary, there is a trend toward earlier weaning of pigs, whether it is done at about two weeks, when particularly good management and facilities are required, or at five or six weeks.

Dr. Damon Catron and Iowa State College have been leaders in research on early weaning of pigs and in development of feeding programs for early weaning.

In connection with this, Dr. Catron has prepared a chart showing the "Economics of Early Weaning Baby Pigs." This chart is reproduced here.

Dr. Catron's basic data are shown in black type, while his current cost figures are in red. The figures in red are as he prepared them in April, 1955. Any feedman or farmer who wishes to use the chart may substitute his own current cost figures for those shown in red in this chart. Dr. Catron points out that the chart can be used to figure costs for both early weaned pigs and pigs left on the sow until they are eight weeks old.

In the calculations in the accompanying chart, savings from early weaning were figured at $4.76 per pig.

"Early weaning puts a premium on and pays a premium for good equipment and good management," Dr. Catron says.

He feels that early weaning is part of the trend toward more specialization in hog raising. And, as a review on the subject for feed men, here is a summary of Iowa State's list of advantages and limitations of early weaning:

ADVANTAGES OF EARLY WEANING

Better-doing pigs — You can feed the pig directly on rations highly fortified with essential vitamins, antibiotics, arsenicals or trace minerals. Pigs are no longer dependent on the sow's uncertain milk flow which reaches a peak at 3 weeks after farrowing then gradually declines. By early weaning you can full-feed proper rations to pigs and get 10 to 20 lb. heavier pigs at eight weeks of age.

Fewer runts—By full-feeding baby pigs off sows you will have fewer runts and stunted pigs—no problems of "robbing" or too few "dinner plates." You can wean the heavier pigs off sows and leave the small pigs on to nurse longer.

Sows don't lose weight—By weaning pigs from sows when they weigh 5 to 12 lb. (1 to 3 weeks of age) sows do not lose the 50 to 75 lb. usually "nursed off" in an 8 to 10 week nursing period—even when self-fed. Sows that do not lose weight when suckling a litter for 8 to 10 weeks either have small litters, are poor milkers or both.

Saves on sow feed—Early weaning will cut your sow feed bill more than half because sows eat twice as much feed every day during lactation (10 to 15 lb. per day) as compared to gestation (5 to 8 lb. per day)—and lactation rations cost more per pound.

Less sow-to-pig diseases — Early weaning reduces the incidence of disease (and parasites) transmitted from the sow to her pigs. Early weaned pigs stay healthier with less incidence of anemia and scours.

More pigs saved—With the sow "out-of-the-picture" there is no further over-laying or crippling.

Sell or re-breed sows sooner after farrowing—This saves time and labor. By early weaning the heavier pigs, the small pigs in the litter can be transferred onto either the better or the poorer sows depending on whether you want to first get the better sows rebred or the poorer sows sold.

Less labor is needed—Early weaning saves handling the volume of feed, bedding and manure required by sows nursing litters. Pens stay cleaner and drier. Less total bedding is needed.

Baby pigs—very efficient feed convertors—Baby pigs will make a pound of body weight gain on 1.7 to 1.9 lb. of ration up to eight weeks of age. Pigs at 100 to 200 lb. of weight require 3.4 and 4.3 lb. of feed per pound of gain respectively.

Less floor space required — With the sow gone one to three weeks after farrowing, you can provide smaller, but can afford better, farrowing and pig starting facilities.

Speeds up swine breeding and feeding—Both on the farm and in research—this means correcting mistakes quicker and applying new, better practices sooner.

Encourages multiple farrowing — The development of successful, practical early weaning of baby pigs encourages swine producers to spread their farrowing throughout the year —especially throughout the winter months. Multiple farrowing results in more uniform marketing.

LIMITATIONS OF EARLY WEANING

Requires special pre-starters — It takes a special pre-starter to do a successful job in starting early weaned pigs (at 5 to 10 lb. or 1 to 2 weeks of age) on dry feed.

Early weaning takes better than average equipment—At first this may appear to be a disadvantage — especially to some who are trying to raise pigs with sows; however, the many advantages of early weaning will encourage hog producers to provide the proper housing and equipment they should have anyway. Early weaning does not require any better facilities than most good hog producers already have in raising pigs on sows.

Requires good management—Early weaning requires good, careful management, but this is rewarded with more profits. You cannot neglect pigs once they are weaned from the sow. The old sow helps to cover up poor management practices — inadequate rations, failure to feed and water regularly, etc.

Economics of Early Weaning Baby Pigs

Figure it out for Yourself! (Basic Facts in Black - Substitute Current Costs in Red)	On Sow (To 8 wks.)	Off Sow (At 2 wks.)	Savings by Early Weaning
I. Early Weaning Cuts Feed Costs			
A. Cost of Feeding Sow and Pigs			
Sow Feed for 8 Wk. Lactation -			
12 Lbs./day x 56 days = 672 Lbs. for 8 wk. Lactation			
672 Lbs. x 3½¢/Lb. = $23.52 Sow feed cost			
$23.52 ÷ 7 pigs weaned/sow (Iowa av.) = $3.36			
Sow feed cost/pig weaned	$3.36		
Creep Feed for Nursing Pigs -			
33 Lbs. Pig Starter/pig x 8¢/Lb. = $2.64			
Pig Starter Cost/Pig	2.64		
Total Feed Cost/40 Lb. Sow-raised Pig	$6.00		
B. Cost of Feeding Early Weaned Pig (Weaned at 8 to 10 Lbs. or about 2 wks. of age)			
Sow Feed for 2 wk. Lactation			
(Up to full feed by 7th day, then 12 Lbs./day)			
126 Lbs. feed x 3½¢/Lb. = $4.41 total sow feed cost ÷ 7.5 pigs/litter (will save at least ½ pig more per litter by early weaning) = $0.59 sow feed cost per pig		$0.59	
Pig Feed			
5 Lbs. 24% Pre-starter x 18¢/Lb. = $0.90			
20 Lbs. 18% Starter x 8¢/Lb. = 1.60			
55 Lbs. 16% Grower x 5¢/Lb. = 2.75			
Feed Cost/Pig = $5.25		5.25	
Total Feed Cost/50 Lb. Pig		$5.84	
C. Savings in Feed Cost/Pig			
$6.00 (Sow raised pig) - $5.84 (early weaned pig) = $0.16			$0.16
II. Saving in Sow Weight Lost During 8 wk. Lactation			
30 Lbs. Body weight x 11¢/Lb. = $3.20 value of weight lost by sow ÷ 7 pigs per litter = $0.60 prorated per pig- (many good nursing sows will lose more than 30 Lbs.)			0.60
III. A 10 Pound Heavier Pig at 8 Wks. of Age by Early Weaning			
50 Lb. (early weaned pig) - 40 Lb. (Sow raised pig) = 10 Lb. heavier pig x 40¢/Lb. = $4.00 extra value of early weaned pig			4.00
Savings per pig by Early Weaning (average)			$4.76

Iowa Agricultural Experiment Station
4-22-55

Swine Nutrition
A.H. Dept.—ISC

Meat Production Shows Increase

WASHINGTON—Red meat production in commercial slaughter plants of the U.S. during March totaled 2,185 million pounds, according to the Crop Reporting Board. This was 17% more than the 1,863 million pounds produced in February and 8% more than the 2,021 million pounds in March a year earlier. Estimated meat production includes slaughter in federally inspected plants and other wholesale and retail plants, but excludes farm slaughter.

Commercial meat production during the first three months of this year totaled 6,244 million pounds, 7% more than the 5,822 million pounds in the corresponding period last year. Beef output during the 3-month period was up only 13 million pounds from a year earlier and veal output was just one million pounds more than in the corresponding 3-month period in 1954. Mutton and lamb production for the first three months was 4% higher than last year while pork production was up 18%. Lard production during the 3-month period was 26% above a year ago.

Cattle and calf slaughter in the period January through March were each 1% more than the corresponding period last year. The number of sheep and lambs slaughtered during the first quarter this year was 3% more than last year, while hog slaughter was 19% more than the same period in 1954.

Two Top USDA Officials Look at The Feed Industry's Past and Future

By JOHN CIPPERLY
Feedstuffs Washington Correspondent

EDITOR'S NOTE: Among the many developments in Washington affecting the feed industry, there was one of special importance in the 1930's and there was another in the war years of the 1940's. Efforts in connection with the government's requirement for a trade code under the National Recovery Administration (NRA) in the 1930's helped draw the industry together. And the industry effort in extending protein supplies and helping to produce more food efficiently during World War II was particularly important in advancing the feed industry and its vital place in the agricultural economy. It happens that two industry leaders in those efforts are today top officials in the U.S. Department of Agriculture. They are James A. McConnell and Walter C. Berger. To help recall for readers these and other events, anecdotes connected with them, and the significance of some of the developments, John Cipperly, Feedstuffs Washington correspondent, conducted an informal interview of Mr. McConnell and Mr. Berger. Many feed men, industry veterans and newcomers alike, will find the following story of interest.

♥ ♥

WASHINGTON — Looking backwards 25 years and then looking forward into the future, two officials of the top echelon of the U.S. Department of Agriculture speak with enthusiasm of the feed industry and its contributions to American agriculture and the wellbeing of the consuming public.

These two gentlemen are James A. McConnell, presently assistant secretary of agriculture, and Walter C. Berger, associate director of the Commodity Stabilization Service.

Both speak pridefully, yet with simple modesty, of their close association with an industry which has built itself up from a business of mixing feed ingredients in a corner bin with the aid of a scoop shovel to an industry now rated in terms of dollar volume as one of the 10 largest manufacturing industries in the U.S.

Mr. McConnell, leader of the G.L.F. Exchange, one of the larger feed manufacturers in the country, is now serving a voluntary hitch at USDA to aid Ezra Taft Benson, secretary of agriculture, in putting the national farm program on a sound basis.

He speaks of the feed industry with a natural nostalgia of the past years, but still with an undimmed enthusiasm for the future.

Mr. Berger also has been one of the feed industry leaders of the recent past and is particularly well known for his work as president of the American Feed Manufacturers Assn.

The Blue Eagle Days

"Jim," as his friends know him, recalls with some pleasure the "old days"—back when the New Deal first lifted the curtain on its first of the remedies for the great depression, the National Recovery Administration, or NRA.

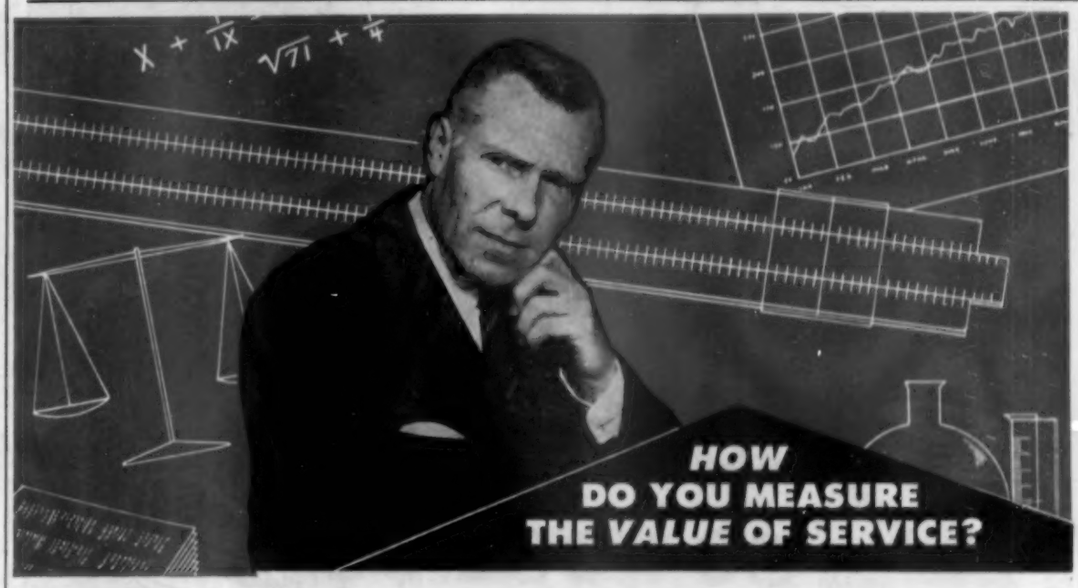
Jim was on an industry committee to devise a code for the feed manufacturing industry. As he recalls the incidents of NRA, he remembers that after much painful effort, the NRA industry committee produced many pages of code rulings, all of which were negative. They set forth what was banned and there was but one page listing permitted activities. With this spartan-like set of paper tablets, an industry group was assembled to review the task force work and to give its benediction.

With a smile, Jim went on to relate that after the committee assembled, a leader of the industry, W. H. Danforth of the Ralston Purina Co., appeared after a trip from Florida. And, as due his prestige, he was

(Continued on page 138)

Walter C. Berger

James A. McConnell is now busy with his duties as assistant secretary of agriculture, but he likes to spend any spare time on his farm in Pennsylvania.



"SPECIAL" Services are *Standard* for DAWE'S VITAMELK Users

It's difficult to "weigh an intangible". The value of dependability and extra service is hard to measure in terms of dollars and cents. Probably the best standard of measure is the *value of your own time.* For example, how much *more* could you accomplish with more of your time free to concentrate on increasing *sales*—your primary responsibility?

Keeping up-to-date with the constantly changing developments in nutrition and feed formulation, in itself, is too big a job for any individual—even if he could devote full-time effort to it. When you try to take on this all-important technical end of your business as a "side-line", both sales and production are bound to suffer.

Here's the alternative:

Delegate to Dawe's the responsibility for the evaluation and application of new nutritional developments to your feeds by programming your business the Vitamelk way. Your own time is left free for sales, planning and other vital management work.

How Dawe's Vitamelk program works for you:

Dawe's nutritionists work with you every step of the way in the over-all planning of a complete personalized nutritional program for you. Specialists from Dawe's Quality Control Laboratory, Chemical and Biological Laboratories, Nutrition Research Department and Farm Research Station are available to assist you on any research, formula or fortification problem. You get real teamwork.

All this help is available to you without cost when you fortify your feeds with Dawe's Vitamelk. This full fortification in a single package simplifies your buying, storing and manufacturing. Vitamelk assures *up-to-date* fortification for each class of livestock and poultry feed.

Without obligation, find out how this streamlined "tailored to your needs" service program can help you operate your business on the soundest possible basis. Mail the coupon today.

Dawe's Laboratories, Inc.
4800 S. Richmond St., FS-55, Chicago 32, Illinois

Offices and warehouse stocks: Belgium—13, Courte rue des Claires, Antwerp. Mexico—Sierra Leona 755, Mexico 10, D. F.

Please send me full information about Dawe's Vitamelk program and Feed Engineering Services.

NAME_____
FIRM_____
ADDRESS_____
CITY_____ STATE_____

WORLD'S OLDEST AND LARGEST SPECIALISTS IN VITAMIN PRODUCTS FOR FEEDS

Progress and Service

By W. E. Glennon
President
American Feed Manufacturers Assn.

EDITOR'S NOTE: The growth of the feed industry over the years has been tremendous, and accompanying that growth have been many new developments and problems. An indication of the growth and the developments is found in the progress and the services of the American Feed Manufacturers Assn., which is now beginning its 47th year of service to the feed manufacturing industry and to agriculture. The following article, particularly timely on the eve of the AFMA's 47th convention, traces some of the development of the industry and the AFMA.

Over the years, great changes have taken place in the nation's economy. At the same time, from its humble and obscure beginning, the feed manufacturing industry has progressed to a point where, today, it occupies a place of recognition among the top 10 manufacturing industries in America.

Similarly, the role of the American Feed Manufacturers Assn. has changed from one of minor importance to major significance.

The association has just begun its 47th year of continuous service to the rapidly expanding feed manufacturing industry. Credit for the organization of the industry's national trade association must be given to a small group of far-sighted men who, early in the century, envisioned the growth potential and the continuing nature of mutual problems which would accompany growth.

And, consistent with the industry growth has been the progress of the association which speaks for the industry. Of interest, also, is the fact that a major portion of both industry and association progress has occurred within the past 15 years.

Today the feed industry is recognized as a vital and potent force in the agricultural progress of the nation. No other industry is more closely allied with agriculture or more interested in the basic soundness of this important segment of the overall economy. For this reason, "service to agriculture" appropriately describes the principles which guide the industry and the AFMA in all relationships.

From 17 to 2,000

Just one indication of the growth of the industry and the association may be seen in this comparison:

The first AFMA convention was held in Chicago in May, 1909, and 17 feed industry men assembled. They elected J. H. Genung, American Hominy Co., and Warren R. Anderson, Flour and Feed, as the initial president and secretary, respectively.

W. E. Glennon

The 47th AFMA meeting this year is expected to draw an attendance of almost 2,000 men from each of the 48 states and several foreign countries.

The original AFMA "staff" consisted of one unpaid secretary, and the original annual budget amounted to $120, the full amount of dues collections for the first year.

Today, the AFMA staff includes nine full-time employees.

There have been many changes in the scope of the AFMA program since 1909. However, with only slight modification, the original policies, functions and objectives constitute the basis for the association's present operation.

Service to the many segments which comprise the industry is the premise upon which the AFMA was founded. The association fosters the interests of the feed manufacturing and allied industries; promotes understanding among those in and associated with the industry; secures and disseminates information; serves as a central point for the coordination of information, dealing with nutrition research, feeding and management, methods of manufacture and distribution, and other general and specific business practices.

New Developments

New developments and constantly changing conditions require the AFMA to maintain a flexible program which will meet all problems as they arise. A strong national association in times of grave emergencies can render service of inestimable value to the industry it represents.

Association policy is established after deliberate consideration of all issues by a duly elected 30-man board

(Continued on page 142)

Menhaden Fish SOLUBLES
50% SOLIDS

A proven economical source of the Growth Factor—Protein—Fat—Choline—Riboflavin—Niacin—Pantothenic Acid—Vitamin B_{12} Plus

Laboratory controlled to insure a uniform product

J. Howard Smith, Inc.
SALES AGENT
MARINE PRODUCTS CO. PORT MONMOUTH, N. J.
Keansburg 6-1000

INVESTIGATE
DEMON
• Steamed ROLLED OATS
• Steamed CRIMPED OATS
• PULVERIZED OATS
Write for information
DES MOINES OAT PRODUCTS CO.
Phone 6-3155
Des Moines, Iowa

WORTH CROWING ABOUT!
HILLTOP AIDS FOR POULTRY
Hilltop Laboratories 710 Washington Ave. S. Minneapolis 1, Minn.

Congratulations!

to FEEDSTUFFS from Blatchford's

ESTABLISHED IN 1800

MR. JACK SAMS
V. P., Blatchford Calf Meal Co.

MR. HARVEY HANTIS
Editor, Feedstuffs

Thanks for these 25 years
you have kept America informed about latest Advancements in the Feed Industry

MORE FIRSTS!

BLATCHFORD LEADS THE FIELD IN INTRODUCTION OF NEW AND BETTER METHODS

IN FEEDS
IN SUPPLEMENTS

Blatchford gave America the FIRST egg mash!
Originated the FIRST chick starter!
Perfected and Marketed the FIRST Calf Meal!
Was FIRST to list ingredients!
(Years before the law required it!)
FIRST with a replacement for milk powders in mixed feeds, "Vitadine."
FIRST to give feed mixers very high potency fish oils!
FIRST with irradiated animal sterols!
FIRST to guarantee vitamin potency!
FIRST to furnish measured A.P.F!
FIRST in our field to provide amazing new Growth Factor—Vigofac!

Above are only a few of the Blatchford FIRSTS . . .
No wonder thousands of successful feed manufacturers from Maine to California are using Vitadine!

. . . many of which were brought to Feeders in Blatchford's Products

Yes, Feedstuffs, we congratulate you! For you have done an outstanding job of showing your readers how to produce better feeds and give better service to their customers. This is a policy close to our hearts here at Blatchford's. It is the same policy upon which we believe our business has been built. We have followed it faithfully since 1800, ever since we gave the world its first successful calf feed.

25 YEARS OF PROGRESS

During the past quarter century, the developments in the feed industry have been so great and so fast as to be startling. Blatchford's has been in the forefront of those pioneering this progress, and has scored repeated firsts in bringing the results of scientific advances to the feed industry. Through the columns of FEEDSTUFFS, Blatchford's has been able to bring these nutritional discoveries to the feed trade. Our cooperative efforts have hastened their use for the advancement of the feed industry.

BLATCHFORD'S SERVICE TO THE FEED INDUSTRY

You are invited to come to Blatchfords with your questions. Here, experienced nutritionists will advise you on practical methods, formulas and any feed problem you may have.

Blatchford's
ESTABLISHED IN 1800

GOOD TO THE LAST DROP — ESTABLISHED IN 1800

West Coast Division Nampa, Idaho — Midwest Plant Des Moines, Iowa — Main Plant and Offices WAUKEGAN, ILL.

CALF-PAB • PABLETS • CALFADINE • VITADINE • SWINEX

The Advances in Poultry Nutrition of Greatest Practical Significance

25th FEEDSTUFFS ANNIVERSARY

By Dr. L. C. Norris
Cornell University

EDITOR'S NOTE: Most of the nutrition developments of the past 25 or 30 years have been in poultry nutrition. And in this article, Dr. L. C. Norris reviews what he considers the poultry nutrition advances of the greatest practical significance. It also should be noted that many of the discoveries have been significant, too, in connection with other animal nutrition. Feed men interested in the development of modern nutritional knowledge and what it has meant in feeds and feeding will be interested in Dr. Norris' documented paper. The author also takes a look at possible nutrition research developments in the future. Dr. Norris is professor of nutrition in the poultry husbandry department of Cornell University, Ithaca, N. Y., and he is chairman of the Committee on Animal Nutrition of the National Research Council.

Until 1922 it was impossible to rear chicks indoors because of the development of severe leg weakness, or to keep hens indoors except in open front houses. In that year Hart, the father of animal nutrition in this country, and his associates Halpin and Steenbock[1] of the University of Wisconsin, showed that leg weakness was a form of rickets and was prevented by supplying the vitamins of cod liver oil.

That same year McCollum and associates of Johns Hopkins University reported that the vitamin A activity of cod liver oil was composed of two components. One component, designated vitamin D, was found to prevent rickets in rats. In view of this finding, leg weakness in chicks was correctly assumed to be due to vitamin D deficiency. The other component continued to be called vitamin A. The need of chicks for vitamin A was established by Hart and coworkers[2] of the University of Wisconsin and by Beach[3] of the University of California in 1924.

The discovery that vitamin D prevented leg weakness in chicks and that chickens required vitamin A led within a very few years to the almost universal use of cod liver oil in poultry feeds. Through its use, it became possible to rear chickens without regard to seasonal variation and to keep hens in quarters which prevented exposure to the rigors of severe winter weather. Without it, the present day poultry industry could not have developed.

Vitamin G

Norris, Heuser and Wilgus[4] of Cornell University discovered in 1930 a new nutritional deficiency disease in chicks, and showed that it was caused by deficiency of vitamin G. Milk by-products were found to be good sources of vitamin G for preventing the new condition. Shortly afterwards, vitamin G deficiency was observed on poultry farms in New York State. The popular name given the condition was curly-toed paralysis.

The following year, Ringrose, Norris and Heuser[5] obtained evidence that vitamin G was a complex composed of the factor preventing the nutritional deficiency disease and a second factor preventing a skin ailment or dermatitis not previously observed in chicks. By 1934, Heiman, Sullivan and Norris[7] had found that vitamin G deficiency in chicks was due to the lack of a yellow pigment, present in milk, which was eventually named riboflavin. This was confirmed by Norris, Davis and Sullivan[8] in 1935 and by Lepkovsky and Jukes[9] of the University of California in 1936.

These discoveries led first to the almost universal use of milk by-products in chick starting rations and in rations for breeders, and then, on the development of appropriate industries, to the use of riboflavin manufactured by chemical synthesis and fermentation procedures.

Pantothenic Acid

The nutritional deficiency in chicks resulting in dermatitis was further differentiated from riboflavin deficiency in 1934 by Norris and associates[10]. Although it was not known until the work of Ringrose, Norris and Heuser[11] appeared in 1936 that the dermatitis observed by them in 1931 was caused by a deficiency of either one of two vitamins, differentiation between riboflavin deficiency and pantothenic acid deficiency was made by Norris and Ringrose[12] in 1935. When pantothenic acid was isolated by Williams and associates[13] in 1938, Jukes[14] of the University of California obtained a small supply from them and showed in 1939 that the dermatitis studied by Ringrose and Norris[11] was due to a lack of this vitamin. The second cause of the dermatitis observed by Ringrose, Norris and Heuser[5] in 1931 was shown in 1942 by Hegsted and associates[15] of the University of Wisconsin to be due to a deficiency of biotin.

Both pantothenic acid and biotin have been synthesized by the chemical manufacturing industry, but only pantothenic acid is being used to any great extent in the manufacture of poultry feeds. The use of pantothenic acid is due to the somewhat general opinion that chick and breeder rations are borderline in this vitamin. This, however, has not yet been definitely established, due to difficulties in determining accurately the pantothenic acid content of poultry feedstuffs.

In 1931 Pappenheimer and Goettsch[16] observed in the brains of chicks a disorder of nutritional origin. Three years later Pappenheimer and Goettsch[17] reported that protection against the disorder, which they named encephalomalacia, was afforded by certain vegetable oils. At the time these studies were being made the disease was occurring on poultry farms. Poultrymen called it the "crazy chick" disease. A report on the occurrence of field encephalomalacia was made by Jungherr[18] in 1936. Dam and associates[19] of the University of Copenhagen, Denmark found in 1938 that the disease was caused by vitamin E deficiency.

Although encephalomalacia was the cause of some loss in broiler production between 1930 and 1950, it is only in the last few years that the disease has become of practical significance. This appears to be due in part to the development of high energy rations containing large amounts of corn.

Recently (1954) Singsen and his associates[20] of the University of Connecticut reported that the development of encephalomalacia in chicks is related to the vitamin E content of breeder diets as well as the vitamin E content of chick diets. The previous year (1953) Scott[21] showed that vitamin E was concerned in the prevention of the enlarged hock disorder in turkey poults. This finding, together with the work done at the University of Connecticut on the importance of maintaining an adequate supply of vitamin E in hen breeder rations and chick rations, stimulated a growing interest in seeing that poultry rations contained sufficient vitamin E. This was possible because highly concentrated preparations of vitamin E from natural sources and also synthetic vitamin E had become available.

Manganese

Shortly after the discovery that vitamin D prevented leg weakness in chicks, poultrymen who reared chicks indoors began to have losses from a

Important Mileposts in Poultry Feeds and Nutrition

Here are listed some of the discoveries or developments that had a great impact on the science of poultry nutrition, poultry feed formulation and the commercial production of poultry. The list was prepared by Dr. Philip J. Schaible, professor of poultry nutrition at Michigan State College, in connection with the college's centennial observance.

1890	Realization of need for forage in winter to get summer results.
1900	Dry mashes.
1909-1912	"Accessory food factors." Sir Frederick Hopkins. Named "vitamins" by Funk.
1909-1914	Vitamin A and vitamin A activity of carotene—protection against nutritional roup, etc.
1910+	Major mineral requirements such as calcium and phosphorus and their relation to growth and egg production.
1913	Fat-soluble vitamins distinguished from water-soluble vitamins by McCullum.
1922-1924	Vitamin D—making it possible to rear poultry throughout the year and making confinement methods possible. Commercial marketing of cod-liver oil and CLO concentrate. Irradiation—recognition of sunlight as a source of vitamin D in chickens and ultraviolet light as a means of commercially producing vitamin D. McCullum.
1928+	Multiple nature of vitamin B. Synthetic production of water-soluble vitamins.
1933	Riboflavin isolated—partly responsible for nutritional values of milk, alfalfa and yeast. Commercially available in 1940.
1934	Importance of the ratio of one mineral to another, i.e. ratio of calcium to phosphorus.
1936+	Vitamin D_3 as the most efficient source of vitamin D for poultry. Soybean oil meal and improved methods of processing — provided necessary supplies of protein for increased poultry production. Thiamine first isolated.
1937	Trace minerals—such as manganese to prevent leg abnormalities. Fish meal and fish solubles—as excellent protein and source of vitamins.
1938	Dehydration of alfalfa—supplied economical source of forage nutrients.
1939	Vitamin B_6 (pyridoxin hydrochloride) first synthesized. Vitamin E (tocopherol) identified. Riboflavin and niacin marketed commercially.
1940	Vitamin E and alpha-tocopherol commercially offered. Pantothenic acid synthesized and offered commercially. Vitamin K, choline, biotin known.
1941	Fermentation products—sources of vitamin B-complex unknown factors.
1942	Quantitative requirements for various nutrients for poultry at different ages.
1943	Niacin-tryptophane-corn relationship increased use high-calorie grains.
1944	Microbiological methods to assay vitamins and amino acids.
1946	Folic acid discovered.
1948	High energy feeds—gave new values to corn—cost less per unit of energy. Vitamin B_{12} isolated in pure form. Was the "Animal protein factor."
1949	Vitamin B_{12} offered commercially. Mechanical feeders—reduced labor cost of feeding.
1950	Non-nutrient growth stimulants—antibiotics, arsenicals, etc., which control intestinal microorganisms. "Intestinal policemen."
1951	Commercial production of amino acids such as methionine.
1953	Animal fats for energy.
1955	3 unidentified factors for growth of which the "fish factor" and "whey factor" are of practical importance.

FUTURE IMPROVEMENTS IN POULTRY FEEDS

What may be expected in the way of future improvements in poultry feeds? Dr. H. R. Bird, head of the poultry husbandry department at the University of Wisconsin, says future improvements probably will be made along the following lines:

1. Characterization of the remaining unknown growth and reproduction factors and development of new concentrates to supply them.

2. Clarification of the relationship between optimum levels of energy and protein and application of this information to feeds intended for various purposes.

3. Establishment of productive energy values of feedstuffs for poultry under a wider range of conditions and on a wider range of feedstuffs than heretofore.

4. More exact determination of the range of requirements for nutrients as distinguished from the present fairly adequate information on average requirements, with attention to the influence of heredity on range of requirements.

5. Effect of nutrient requirements of environmental requirements such as sanitation, disease, temperature, ventilation, crowding and litter.

6. Use of additional synthetic amino acids to achieve more effective balance of amino acid distribution.

To Our Friends at

FEEDSTUFFS . . .

Congratulations to you on your 25th anniversary! Our hats are off to all the members of a grand organization doing a splendid job in recording the history of the fast-growing feed industry, year by year.

As FEEDSTUFFS serves the industry as its No. 1 *weekly newspaper,* we at THE FEED BAG constantly strive to maintain our publication's position as the feed industry's No. 1 *monthly magazine.*

We extend our most sincere wish for your continued success—may we ever be real competitors and at the same time true friends.

DAVID K. STEENBERGH, Publisher
BRUCE W. SMITH, Editor
ELDON H. ROESLER, Business Manager

The Feed Bag

"Serving the Industry for More Than 30 Years"

1712 West St. Paul Avenue
Milwaukee 3, Wisconsin

WE ALSO PUBLISH THE FEED BAG RED BOOK AND THE BLUE BOOK OF FUR FARMING

MAJOR DEVELOPMENTS IN POULTRY NUTRITION, 1922-55

Following are major developments in poultry nutrition as listed by Dr. L. C. Norris:

Discoveries of practical value	Popular name of deficiency disease	Period of important findings and initial application
Vitamin D	Leg weakness	1922
Vitamin A	———	1924
Vitamin G (Riboflavin)	Curly-toed paralysis	1930-1936
Vitamin E (alpha-tocopherol)	Crazy chick disease	1930-1938, 1953-1954
Manganese	Slipped tendon	1930-1937
High energy rations	———	1945-1950
Vitamin B_{12}	———	1948-1950
Antibiotics	———	1946-1950

condition called "slipped tendon" which crippled the chicks. In aggravated cases, the Achilles tendon slipped from the condyles of the tibia of the leg and made the leg useless. Hunter and Funk[31] of Pennsylvania State College in 1930 showed that slipped tendon could be produced experimentally by supplying high levels of calcium and phosphorus in the chick diet.

In 1936 Wilgus, Norris and Heuser[32] of Cornell University demonstrated that slipped tendon was due to a deficiency of manganese. They also showed that manganese was required for the growth of chicks. The following year Gallup and Norris[33] of Cornell University and Lyons and Insko[34] of the University of Kentucky reported that manganese was required for hatchability.

In an exceedingly short time afterwards, feed manufacturers in general began adding manganese to chick and breeder rations, with the result that slipped tendon disappeared for the most part and the hatching rate was increased somewhat. The cost of this improvement was approximately 2¢ per ton at that time. The discovery was particularly important to the broiler industry.

High Energy

Heuser, Norris, Peeler and Scott[35] in 1945 called attention to the better growth and improved feed efficiency obtained by feeding chicks low fiber rations and the greater egg production and better maintenance of weight in layers. The greater efficiency of the low fiber rations appeared to be due to the large amount of digestible nutrients in them.

In 1947 Scott, Matterson and Singsen[36] of the University of Connecticut and in 1950 Singsen[37] reported that better growth and feed efficiency were obtained by feeding broilers high energy rations. Similar results were obtained by Scott, Heuser and Norris[38] in 1948 with turkey poults.

The findings of these groups of investigators, particularly those obtained at the University of Connecticut, demonstrated that it was possible to produce poultry rations of higher digestibility or higher energy content than those in use at the time, which would improve growth and egg production at a lower feed intake. As a consequence, the poultry industry has turned in general to the use of high energy rations, especially for producing broilers and rearing growing chicks and also to a considerable extent for producing eggs. This has been one of the most striking developments in poultry nutrition in recent years, and has led to improved profits for poultry producers without greatly increasing the cost of poultry products to consumers.

Choline

Following the demonstration by Wilgus, Norris and Heuser[32] that slipped tendon, or perosis, in chicks is prevented by the addition of manganese to the ration, Jukes[39] showed in 1940 that perosis was also produced by choline deficiency, although the ration supplied was adequate in manganese.

This finding has led to the rather general use of choline in poultry rations, although the available evidence indicates that the chick and the hen are able to synthesize choline to some extent and that practical ingredients may supply adequate amounts of choline. The question, however, is un-

MAJOR INDUSTRIAL DEVELOPMENTS

Following are major industrial developments in connection with poultry feeding, as listed by Dr. L. C. Norris:

- Dehydrated alfalfa meal
- Dried whey and dried whey products
- Fish solubles
- Distillers' dried solubles
- Other fermentation products
  - Riboflavin
  - Vitamin B_{12}
  - Unidentified factors
  - Antibiotics
- Synthetic vitamins
  - Riboflavin
  - Niacin
  - Pantothenic acid
  - Choline
- Soybean meal
- Dicalcium phosphate and defluorinated rock phosphate

Nutritionists! Mill Managers! Mill Operators!

Now—your ANSWER in one bag!

Solve problem of wastage...time loss...space shortage...through

PETER HAND'S STANDARD PREMIX PROGRAM

Convenient and economical. Each batch-size 5- or 10-lb. package provides Vitamins, antibiotics and DPPD to fortify one ton of high-quality feed

NEW AND IMPROVED...
Peter Hand Starter
Peter Hand Grow & Lay
Peter Hand Grow-Lay-Breeder
Peter Hand Premix-Turkey
Peter Hand Premix-Duck
Peter Hand Premix-Pig

You will have better quality control and less worry about the quality of your feeds with Peter Hand Standard Premixes. Eliminate dangerous under fortification and costly overfortification because Peter Hand Standard Premixes provide the correct fortification for every feed.

Only the highest quality, full potency vitamins and other feed additives are used in Peter Hand products to assure maximum compatibility, stability and biological availability.

Why not let the Peter Hand Research Staff, Laboratory and Research Farm give you these *economies and product control* with its know-how and experience. Use Peter Hand Standard Premixes—products of "Progressive Nutrition"

PETER HAND FOUNDATION
DIV. PETER HAND BREWERY CO.
1000 West North Avenue, Chicago 22, Illinois · MOhawk 4-6300

CUSTOM PREMIXES—TO YOUR SPECIFICATIONS AVAILABLE WITH SAME RIGID CONTROLS

BROWER CREEP FEEDER

Makes Creep Feeding EASY!

Ends need for homemade creep pens—saves time and labor costs! Designed for pigs ONLY—low canopy keeps sows away from feed troughs. The most efficient creep feeding method yet devised. No. 4CF—Body of 20 ga. rust-resisting Armco Zincgrip. Weatherproof, sanitary, easy to fill. 8 bu. cap. Accommodates 75 pigs. Length 4'; Ht. 35½"; Width 53". Shipped KD (175 lbs.).

NEW! BROWER Junior Creep Feeder

- For the individual farrowing pen — gets pigs on high potency rations early.
- Takes care of litter of 10 pigs.
- Holds 16 lbs. creep starter.
- Can be used as grit box for poultry.

No. 1CF—Made of rust-resisting Armco Zincgrip. Designed to prevent feed waste. Width 12½", depth 6½", height 14¼". Height trough edge 2½". Shipped set-up. Weight 6 lbs.

Write for details and low dealer prices.

BROWER MFG. CO., 151 N. 3rd., Quincy, Ill.

Congratulations...

...to FEEDSTUFFS for 25 years of helpful service to the feed industry.

...also to 260 WAYNE FEED DEALERS who have received Loyal Service Awards* for handling Wayne Feeds for 25 years or more.

*As of this date, 1,112 dealers have served American farmers with Allied Mills products for 10 consecutive years or more. Of this number, many have 30 and 35 years of service or more, on up to 53 years.

ALLIED MILLS, INC.

Builders of tomorrow's feeds...today!

EXECUTIVE OFFICES: CHICAGO 4, ILLINOIS

Two words work like magic to increase salt profits

"TRACE MINERALIZED"

Next time a customer asks you for stock salt, just say to him, "Trace mineralized?"

You'll find, as many of our dealers have, that this simple sales-making formula works like magic. Try it. Keep track of your next ten customers. You'll sell *higher profit* Morton T-M Salt to most of them. Just remember to say "Trace mineralized?"

MORTON T-M SALT IS PRE-SOLD

Farmers and feeders know that Morton T-M Salt is the low-cost way to top feeding efficiency. Regular advertising in leading farm publications drives home the fact that the cost of T-M Salt is but a fraction of a cent per day per animal.

Numerous articles by feeding authorities stress the value of *trace minerals*. Just remind your customers, and they'll buy T-M.

TRY A MORTON T-M SALT DISPLAY

Another way to increase sales is to build a display of the new bags and blocks. The new, eye-catching design quickly reminds your customers to buy Morton T-M Salt.

★ Your customers want it
★ Their livestock need it
★ Your feeds will do a better job
★ You'll make more profit

Sell bags or blocks—
Use it in feed mixes

MORTON T-M SALT
Trace Mineralized Salt

Morton Salt Company • Chicago 3, Illinois

High-Low Energy Comparison

One of the important developments in poultry feeding has been high energy rations. In the following tables are comparisons of results in the Oklahoma Egg Laying Test between a low energy ration in 1939-40, the highest record year prior to use of high energy feeds, and a high energy ration in 1953-54. The latter is a special, fortified layer-breeder ration designed for top commercial producers.

FEED CONSUMED, EGG PRODUCTION, POUNDS OF FEED PER DOZEN EGGS, AND BODY WEIGHT PER HEN BY BREEDS—
OKLAHOMA EGG LAYING TEST

17th Test, 1939-40 — Low Energy Ration

	Pounds of feed consumed						Egg production		Lb. feed* per doz.	Body weight, lb.		
Breed:	Oats	Mash	Grit	Shell	Grain	Total	Hen Day	Hen H's'd	eggs	Oct. 1939	Sept. 1940	Gain
S. C. R. I. Red..	36.85	26.00	1.76	3.28	30.90	108.10	217.00	208.0	5.70	5.15	6.03	.88
White Ply. Rock.	36.70	25.24	1.86	3.24	31.19	108.20	201.20	181.7	6.15	5.38	6.32	.94
White Wyandotte	32.90	29.90	1.59	3.20	30.21	98.00	200.10	189.8	5.89	5.06	5.83	.77
Barred Ply. Rock	38.90	32.13	1.76	3.57	34.50	110.60	225.70	203.7	5.60	5.48	6.79	1.31
Australorp	33.27	28.56	1.52	3.66	29.67	96.62	211.40	200.9	5.19	4.19	5.83	.93
Buff Leghorn ...	32.10	18.44	1.06	2.46	29.18	74.06	153.40	151.3	5.34	3.01	3.66	.65
White Leghorn .	29.50	21.90	1.43	3.75	34.10	100.70	226.40	203.2	5.06	4.00	4.49	.49
All breeds	32.60	32.40	1.58	3.52	32.63	102.78	217.56	199.03	5.39	4.67	5.37	.70

31st Test, 1953-54 — High Energy Ration

	Pounds of feed consumed, per hen					Egg production		Lb. feed*	Body weight, lb.		
Breed:	Mash	Grit	Shell	Grain	Total	Hen Day	Hen Housed	per doz. eggs	Oct.	Sept.	Gain
White Leghorn..	62.50	1.54	4.62	31.58	101.14	262.09	246.96	4.35	4.60	4.95	.35
Brown Leghorn.	56.53	1.08	3.35	30.97	91.93	215.85	215.85	4.86	4.18	4.00	—.18
S. C. R. I. Red .	62.51	.96	3.57	35.42	102.47	271.76	266.54	4.32	5.26	5.42	.16
Australorp	56.88	1.12	2.84	34.12	94.76	220.10	206.56	4.95	5.60	6.07	.47
New Hampshire.	61.24	1.21	2.74	35.42	100.61	212.38	209.60	5.46	5.57	5.96	.39
White Ply. Rock	57.92	1.33	2.64	36.92	98.81	223.56	210.66	5.09	5.81	6.09	.28
All breeds	61.57	1.38	3.77	33.39	100.11	244.65	234.38	4.66	5.03	5.36	.33

*Does not include grit and shell and hen day egg production is used.

Prof. Rollin H. Thayer of Oklahoma A. & M. College made a further comparison of results based on 1953-54 feed and egg prices. The following figures are 12-month (Oct.-Sept.) totals or averages for 650 pullets housed:

OKLAHOMA EGG LAYING TEST

1939-40, Low Energy Ration, 650 Pullets Housed

Feed consumed lb.	Cost of feed	Flock margin over feed	Egg sales	Egg prices	Feed cost per doz.	Eggs produced
60,129.70	$2,233.91	$1,631.19	$3,864.10	$0.3601	$0.2101	127,616

The average cost of feed (mash and grain) per 100 lb. was $3.71.

1953-54, High Energy Ration, 650 Pullets Housed

62,321.10	$2,813.96	$1,844.15	$4,663.12	$0.3601	$0.2281	152,347

The average cost of feed (mash and grain) per 100 lb. was $4.52.

Prof. Thayer points out that the higher priced ration resulted in $212.97 more profit over feed cost than the lower priced ration for a flock of 650 hens. The feed cost per dozen eggs was higher with the higher priced ration, he notes, but it produced many more eggs and resulted in more return from egg sales over feed costs. The egg prices used are for the year 1953-54, which was an unfavorable egg-feed price ratio year. Had more favorable egg price years been used, Prof. Thayer says, the results in favor of the high energy ration would have been much greater.

---

settled, and further experimentation is required to determine the choline requirements of poultry, particularly as the requirement is related to the presence of choline precursors in practical ingredients and the supply in the ration of vitamin B_{12} which exerts a sparing effect on choline.

Niacin

Briggs and associates[31] of the University of Wisconsin discovered in 1943 that in niacin deficiency a few of the chicks developed perosis in addition to other symptoms. A few years later Briggs,[32] then working at the University of Maryland, found that perosis occurred in niacin deficiency in turkey poults.

In 1952, Heuser and Scott[33] of Cornell University showed that niacin deficiency was responsible for a bowed leg condition in ducklings, and Battig and associates[34] of the University of Minnesota observed that niacin prevented perosis in goslings. That same year Scott[31] showed that niacin was required to prevent a form of enlarged hocks in turkey poults similar to that encountered on poultry farms.

These findings established the importance of niacin in bone development in chicks, turkey poults and ducklings and made it necessary to pay particular attention to the niacin content of practical rations for turkey poults and ducklings.

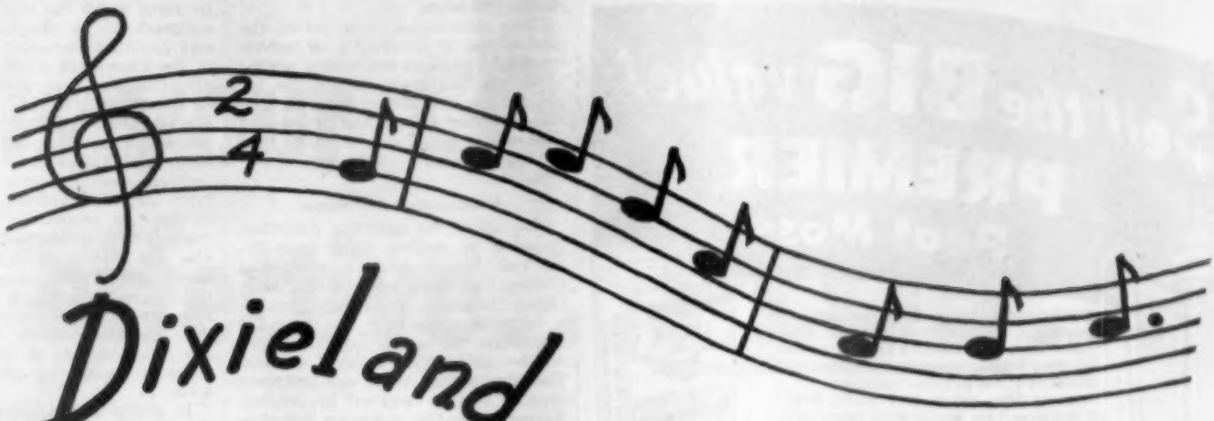
Vitamin B_{12}

Following the isolation of vitamin B_{12} by Rickes and associates[35] of Merck and Company in 1948, Ott, Rickes and Wood[36] of the Merck Institute for Therapeutic Research showed in the same year that vitamin B_{12} promoted growth in chicks which had been fed diets lacking this vitamin. Later that year Lillie, Denton and Bird[37] showed that vitamin B_{12} and the animal protein factor were related. In 1949 Lillie, Olsen and Bird[38] obtained evidence that vitamin B_{12} was required for reproduction in poultry. More direct evidence of this was obtained by Petersen and associates[39] of the University of Idaho in 1950.

Vitamin B_{12} was thus shown to be a part at least of the animal protein factor previously known to be required both for growth and reproduction and found in meat and fish products. The discovery of the importance of vitamin B_{12} in poultry nutrition led to the early development of crude sources of this vitamin of standardized potency. As a consequence, poultry rations now can be made adequate in this vitamin with much greater assurance than formerly. The discovery of the value of vitamin B_{12} in poultry nutrition represents another important step forward in developing better poultry rations.

Antibiotics

The discovery of the growth promoting properties of vitamin B_{12} for chicks led Stokstad and associates[40] of Lederle Laboratories in 1949 to study the value of crude sources of the vitamin. They found that not all of the activity of crude sources of the vitamin could be explained on the basis of vitamin B_{12} content, and postulated that the animal protein factor was multiple in nature. The following year, Stokstad and Jukes[41] showed that the second factor in crude sources of vitamin B_{12} was the antibiotic, aureomycin.

Similar findings were also obtained that year by Whitehill, Olson and Hutchings[42] of Lederle Laboratories. Previously (1946) Moore and associates[43] of the University of Wisconsin had reported that streptomycin stimulated the growth of chicks but their finding was overlooked. Also in 1949 Harned and associates[44] of Lederle Laboratories reported that aureomycin promoted chick growth but believed that the effect was probably due to the elimination of an infection. In the work of Stokstad and Jukes[45] however no infections were

In Dixieland, We Took Our Stand

JUST two years ago . . . because we could see ahead the great growth potential of the Mid-South and could envision the huge agricultural development of the future in this land so bountifully endowed by Nature with favorable climate and soil.

We have had no cause to regret that decision and for that we are thankful to our many good friends in the feed manufacturing industry of the Mid-South.

We want to be known for the company we keep, not only the company of our progressive feed manufacturer customers of this area, but also for the company of the principals we represent . . . names of honorable repute in business and scientific achievement whom we have listed on this page.

With their help we hope to make the Pless & Sheahan insignia P/S stand for a real personal service to our customers in nutritional knowledge and in every other way.

REPRESENTING:

ABBOTT LABORATORIES
Pro-Gen, Klotogen

ALABAMA CALCIUM PRODUCTS CO.
Trace Mineral Mixes

CHAS. PFIZER & CO., INC.
Terramycin-Vigofac

CORONET PHOSPHATE CO.
Defluorinated Phosphate

COLONIAL SUGARS COMPANY
Molasses-Feeding Sugars

E. I. DU PONT de NEMOURS & CO., INC.
"TWO-SIXTY-TWO"

THE HARSHAW CHEMICAL COMPANY
Cobalt Compounds

HOFFMAN-TAFF, INC.
D P P D

MEFFORD CHEMICAL CO.
Potassium Iodide

NATIONAL ALFALFA DEHY. & MLG. CO.
Alfalfa

NOPCO CHEMICAL CO.
Vitamins-Feed Supplements

PHILIP R. PARK, INC.
Fish Solubles

SOFT PHOSPHATE, INC.
Flori-Phos

TAMMS INDUSTRIES, INC.
Oxides, Bentonite

UNITED SALT CORPORATION
Stock and Feeding Salt

WESTERN CONDENSING CO.
Dried Whey Products

WESTERN YEAST CO.
Live Yeast Products

Pless & Sheahan

MEMPHIS 2 (P/S) TENNESSEE

PROMPT SERVICE

Sell the BIG value!
PREMIER
Peat Moss

Poultrymen who try Premier keep buying it, because Premier is the *BIG value* litter that absorbs up to 20 times its own weight in moisture—*four* times as much as other material. It saves time, money and chicks. Sell Premier—from world-wide resources. Write for dealer helps and full details.

Premier Peat Moss Corp., 535 Fifth Ave., New York 17, N. Y.

Burlap or Veneer — Premier is the BIGGEST selling brand — All Plastic

noted during the course of the experimental work.

These discoveries have led to the general use of antibiotics in rations for chicks, broilers and turkey poults. Their use has made it possible for poultrymen to obtain greater and more uniform growth and better feed efficiency. Antibiotics have thus proven to be of great practical significance.

Unidentified Nutrients

Not all of the nutritive essentials required by poultry have been discovered. Recent work conducted at Cornell University and at Texas A&M College indicates that poultry require a mineral element(s) not reported previously to be needed. The work on the unidentified mineral element also shows that there are unknown organic factors required by poultry. Research on the unknown nutritive essentials, therefore, will be continued until all of them have been identified.

Evidence on the quantitative requirements of poultry for nutritive essentials is by no means complete. In some cases the evidence is not sufficient to be absolutely reliable, and in other instances actual gaps in the knowledge exist. Most of the attention has been given to studies on the quantity of the various nutritive essentials required for growth of chicks during early life and for reproduction. Little is known about the requirements of poultry during the later stages of growth, and further evidence is needed on the requirement for egg production. Little work also has been done on the effect of breed on nutrient requirements. In the future, therefore, a great deal of research will be conducted to determine more accurately the quantitative requirements of our various types of poultry for nutritive essentials.

In studying quantitative nutritive requirements, greater emphasis will be placed in the future on the interrelationships of the various nutrients and on their relationship to growth and production rates and to such factors as climatic conditions, disease and drugs. The work being done at the present time on the possible relationship between vitamin K and certain coccidiostats is an illustration of this.

Energy Requirements

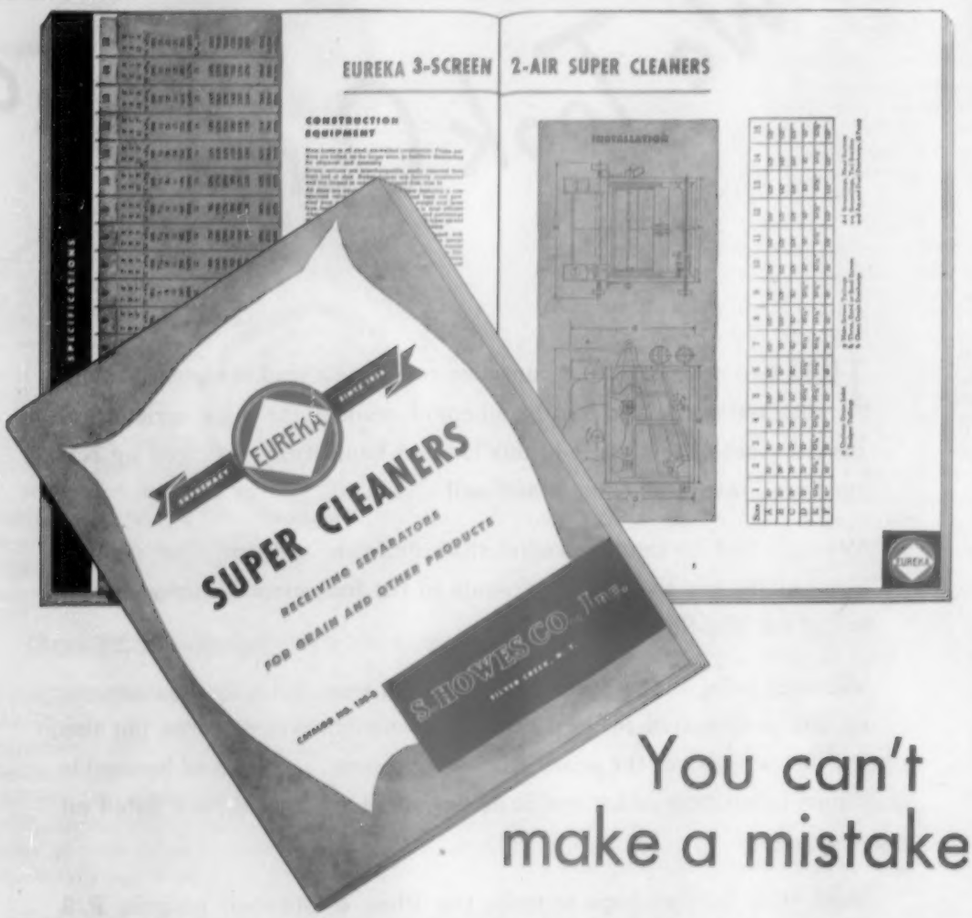
More work will be done in the future on the energy or caloric requirements of poultry for growth, fattening and egg production. This will include work on the metabolizable or productive energy of poultry feedstuffs as well as the metabolizable energy requirements of poultry.

Antioxidants are coming into use in poultry feed ingredients as a means of preventing the development of rancidity in fats, to preserve vitamins and to prevent oxidation of carotene and related pigments in dehydrated alfalfa meal. They are also being used to some extent in mixed feeds for the same purposes. Studies of their value will be continued undoubtedly in an effort to find even better antioxidants than those available at present and also to learn how to use them intelligently.

Finally, it seems probable that other means of determining adequacy in nutritive essentials will be used in addition to viability, physical condition, growth, production and reproduction. More research will be conducted on the biochemical function of nutritive essentials. In doing this biochemical measurements will be developed which will supplement the measurements now most commonly used in determining nutritive adequacy.

References

1. Hart, E. B., J. G. Halpin and H. Steenbock—The nutritional requirements of baby chicks. II. Further study of leg weakness in chickens; J. Biol. Chem., 52:379, 1922.
2. McCollum, E. V., N. Simmonds and J. E. Becker—Studies on experimental rickets. XXI. An experimental demonstration of the existence of a vitamin which promotes calcium deposition; J. Biol. Chem., 53:293, 1922.
3. Hart, E. B., H. Steenbock, S. Lepkovsky and J. G. Halpin—The nutritional requirements of baby chicks. IV. The chick's requirement for vitamin A; J. Biol. Chem., 60:341, 1924.
4. Beach, J. R.—Studies on nutritional disease of poultry caused by vitamin A deficiency; Cal. Agr. Exp. Sta. Bul. 378, 1924.
5. Norris, L. C., G. F. Heuser and H. S. Wilgus, Jr.—Is the chief value of milk for feeding poultry true to the presence of a new vitamin? Poultry Sci., 9:133, 1930. Also see: Norris, L. C., G. F. Heuser, H. S. Wilgus, Jr., and A. T. Ringrose—The occurrence in chicks of a paralysis of nutritive origin; Poultry Sci., 10:93, 1931.
6. Ringrose, A. T., L. C. Norris and G. F. Heuser—The occurrence of a pellagra-like syndrome in chicks; Poultry Sci., 10: 166, 1931.
7. Heiman, V., R. A. Sullivan and L. C.



You can't make a mistake

in selection...when you specify Eureka Super Cleaners

Our new, deluxe catalog No. 180-B on Eureka Cleaners and related equipment is just off the press. Richly printed in three colors with large illustrations of Cleaners and screen arrangements. Complete specifications for every cleaning purpose are also included together with installation diagrams. Twenty-four pages of valuable information you'll want to keep for ready reference.

Here you can dig into the innermost details of design, construction, installation and operation. Simple down-to-earth, informative. Straight as an arrow, this information lifts you out of the fog of claims, counter-claims and confusion into the clarity of positive knowledge. "Sales copy" is eliminated and technical information only is supplied. A valuable reference catalog for owners, plant and maintenance superintendents, engineering and purchasing personnel.

Mail a postcard for your copy today and please mention this publication

EUREKA

S. HOWES CO., INC. SINCE 1856

SILVER CREEK, N. Y. • LONDON, ENGLAND

Make Your Customers
GOOD Customers... all year 'round

SUPREME Brand
Condensed BUTTERMILK

HERBERT K. CLOFINE, Inc.
MILK PRODUCTS
315 South Smedley St. Phila. 3, Pa.

Advertisement

Advertisement

Is your COCCIDIOSTAT effective... PLUS...

		NFZ SCORE	YOUR SCORE
1.	Non-toxic at recommended levels to poultry of any age, including laying hens? (Would a slight overdose cause trouble?)	nfz *is!*	
2.	Safe for other farm animals?	nfz *is!*	
3.	Labeled to be fed up to marketing time? (Doesn't enter the edible tissue)	nfz *is!*	
4.	Bactericidal? (Does it aid in protecting birds against pullorum and certain secondary infections of the intestinal tract?)	nfz *is!*	
5.	Free from accumulation in the body of the bird?	nfz *is!*	
6.	Proved stable when stored or mixed in feed?	nfz *is!*	
7.	Compatible with other feed ingredients and drugs, such as antibiotics, sulfas and arsenicals?	nfz *is!*	
8.	Versatile? (Can it be used effectively and safely in grower feeds, treatment feeds, concentrates, etc.?)	nfz *is!*	

Don't experiment with your customers... Use NITROFURAZONE

Progress in Poultry Feeds and Feeding

Here is a comparative summary showing the progress made in the past 55 or 60 years in poultry feeding and feeding management. The comparison was prepared by Dr. Philip J. Schaible, professor of poultry nutrition at Michigan State College, in connection with the college's centennial observance.

Feeds and Nutrition	1855-1905 Practices	Advanced 1955 Practices
Common types of feeds used	Cooked, wet mashes, bugs, table scraps, fresh greens, roots, grains	Dry mashes, pellets and crumbles, all-mash
First feeds	Johnny cake, eggs, bran, rolled oats	Higher protein feeds
Adjuncts for growth, health	Charcoal, spices, onions	Antibiotics, hormones, coccidiostats, arsenic acids
Summer feeds	Grains, liquid milk, pasture grasses	Dry feeds
Winter feeds	Sprouted oats, cabbage, root crops	Dry feeds
Commercial feeds	None	Predominantly
Known nutrients	Half dozen	36 +
Nutritional deficiencies	Prevalent	Practically eliminated
Feed requirements—hatchability	Unknown	Now known fairly completely
Feed additives—hatchability	Green feeds	Vitamins D, B_{12}, G, Ca, Mn.
Feed efficiency—broilers	5 + lb. feed/lb. chicken	2.3 lb. feed/lb. gain
Feed efficiency—eggs	11 lb. feed/dozen eggs	4.6 lb.
Limiting Factors Affecting Size of Operation		
Purpose of feeding	Family food, hobby	Livelihood, market and hatching eggs
Type of flock	Hens of all ages	Pullet
Season of production	None in winter	All year
Eggs/hen/year—flock average	90	185
Value of eggs	Practically worthless in spring	Year around demand
Incubation	Hen hatched and brooded	Incubator hatched, electric brooded
Chicks per hen per year	10-20	100-200
Size of unit in broiler operation	Hardly existed	40,000 birds
Time to market broilers	12 to 16 weeks	8 to 10 weeks
Labor—broilers/man	1,000	20,000 birds
Size laying flock, national average	20	81
Labor—layers/man	500	2,000
Turkeys raised per 100 brooded	50	91
Feeding Management		
Grains	In litter, pans	In hoppers
Feeding schedules	Complicated	Simple
Feed room equipment	Vegetable, hay, bone cutters, caldrons	None
Mashes	Wet, cooked	Dry
Drink	Liquid milk, water	Water
Feeder	Trough, intermittent	In hoppers

Norris—Evidence that lactochrome is one factor of the vitamin G complex; Cornell Univ. Agri. Exp. Sta. 47th Annual Report, pg. 113, 1934.

8. Norris, L. C., H. J. Davis and R. C. Sullivan—The role of flavin in the nutrition of poultry; Cornell Univ. Agri. Exp. Sta. 48th Annual Report, pg. 132, 1935.

9. Lepkovsky, S. and T. H. Jukes—The response of rats, chicks and turkey poults to crystalline vitamin G (flavin); J. Nutrition, 12:516, 1936.

10. Norris, L. C., G. F. Heuser, A. T. Ringrose, H. S. Wilgus, Jr., and V. Heiman—The vitamin G requirement of poultry; Atti del V Congresso Mondiale di Polliccoltura, II:512, 1934.

11. Ringrose, A. T. and L. C. Norris—Differentiation between vitamin G and a soluble factor preventing a pellagra-like syndrome in chicks; J. Nutrition, 12:553, 1936.

12. Norris, L. C. and A. T. Ringrose—The requirement of poultry for vitamin G; Cornell Univ. Agr. Exp. Sta. 48th Annual Report, pg. 129, 1935.

13. Williams, R. J., J. H. Truesdail, H. H. Weinstock, Jr., E. Rohrmann, C. M. Lyman and C. H. McBurney—Pantothenic acid. II. Its concentration and purification from liver; J. Am. Chem. Soc., 60:2719, 1938.

14. Jukes, T. H.—The pantothenic acid requirement of the chick; J. Biol. Chem., 129:225, 1939.

15. Hegsted, D. M., J. J. Oleson, R. C. Mills, C. A. Elvehjem and E. B. Hart—Studies on a dermatitis in chicks distinct from pantothenic acid deficiency; J. Nutrition, 20:599, 1940.

16. Pappenheimer, A. M. and M. Goettsch—A cerebellar disorder in chicks apparently of nutritional origin; J. Exp. Med., 53:11, 1931.

17. ————————Protection afforded by certain vegetable oils against nutritional encephalomalacia in chicks; Proc. Soc. Exp. Biol. and Med., 31:777, 1934.

18. Jungherr, E. L.—A field condition resembling nutritional encephalomalacia of chicks; Science, 84:559, 1936.

19. Dam, H., J. Glavind, O. Bernth and E. Hagens—Anti-encephalomalacia activity of di-alpha-tocopherol; Nature, 142:1157, 1938.

20. Singsen, E. P., L. D. Matterson, A. Kozeff, R. H. Bunnell and E. L. Jungherr—Studies on encephalomalacia in the chick. I. The influence of a vitamin E deficiency on the performance of breeding hens and their chicks; Poultry Sci., 33:192, 1954.

21. Scott, M. L.—Prevention of the enlarged hock disorder in turkeys with niacin and vitamin E; Poultry Sci., 32:670, 1953.

22. Hunter, J. E. and E. M. Funk—The production of "slipped tendon" in chicks by experimental feeding; Proc. 22nd Annual Meeting Poultry Science Assn., pg. 43, 1930.

23. Wilgus, H. S., Jr., L. C. Norris and G. F. Heuser—The role of certain inorganic elements in the cause and prevention of perosis; Science, 84:252, 1936. Also see: The role of manganese and certain other trace elements in the prevention of perosis, J. Nutrition, 14:155, 1937.

24. Gallup, W. D. and L. C. Norris—Studies on the importance of manganese in the nutrition of poultry; Poultry Sci., 16: 351, 1937. Also see: The effect of a deficiency of manganese in the diet of the hen; Poultry Sci., 18:83, 1939.

25. Lyons, M. and W. M. Insko, Jr.—Chondrodystrophy in the chick embryo produced by manganese deficiency in the diet of the hen; Ky. Agr. Exp. Sta. Bul. 371, 1937.

26. Heuser, G. F., L. C. Norris, H. T. Peeler and M. L. Scott—Studies on the apparent effect of digestibility upon growth, weight maintenance, and egg production; Poultry Sci., 24:142, 1945.

27. Scott, H. M., L. D. Matterson and E. P. Singsen—Nutritional factors influencing growth and efficiency of feed utilization. I. The effect of the source of carbohydrate; Poultry Sci., 26:554, 1947.

28. Singsen, E. P.—Those high energy rations; Where do we stand today; Feed Merchant, January, 1950.

29. Scott, M. L., G. F. Heuser and L. C. Norris — Energy, protein and unidentified vitamins in poult nutrition; Poultry Sci., 27:773, 1948.

30. Jukes, T. H.—Prevention of perosis by choline; J. Biol. Chem., 134:789, 1940.

31. Briggs, G. M., Jr., T. D. Luckey, L. J. Teply, C. A. Elvehjem and E. B. Hart—Studies on nicotinic acid deficiency in the chick; J. Biol. Chem., 145:517, 1943.

32. Briggs, G. M. — Nicotinic acid deficiency in turkey poults and the occurrence of perosis; J. Nutrition, 31:79, 1946.

33. Scott, M. L. and G. F. Heuser — Studies in duck nutrition. 4. Bowed legs in ducks caused by niacin deficiency; Poultry Sci., 31:752, 1952.

34. Battig, M. J., E. G. Hill, T. H. Canfield and H. J. Sloan—Prevention of perosis in goslings by nicotinic acid; Poultry Sci., 32:550, 1953.

35. Rickes, E. L., N. G. Brenk, F. R. Koniuszy, T. R. Wood and K. Folkers—Crystalline vitamin B_{12}; Science, 107:396, 1948.

36. Ott, W. H., E. L. Rickes and T. R. Wood—Activity of crystalline vitamin B_{12} for chick growth; J. Biol. Chem., 174:1047, 1948.

37. Lillie, R. J., C. A. Denton and H. E. Bird—Relation of vitamin B_{12} to the growth factor present in cow manure; J. Biol. Chem., 176:1477, 1948.

38. Lillie, R. J., M. W. Olsen and H. R. Bird—Role of vitamin B_{12} in reproduction in poultry; Proc. Soc. Exp. Biol. and Med., 72:598, 1949.

39. Petersen, C. F., A. C. Wiese, C. E. Lampman and R. V. Dahlstrom—Role of crystalline vitamin B_{12} for hatchability; Poultry Sci., 29:613, 1950.

40. Stokstad, E. L. R., T. H. Jukes, J. Pierce, A. C. Page, Jr., and A. L. Franklin—The multiple nature of the animal protein factor; J. Biol. Chem., 180:647, 1949.

41. Stokstad, E. L. R. and T. H. Jukes—Further observations on the animal protein factor; Proc. Soc. Exp. Biol. and Med., 73: 523, 1950.

42. Whitehill, A. R., J. J. Oleson and B. L. Hutchings — Stimulatory effect of Aureomycin on growth of chicks; Proc. Soc. Exp. Biol. and Med., 74:11, 1950.

43. Moore, P. R., A. Evenson, T. D. Luckey, E. McCoy, C. A. Elvehjem and E. B. Hart—Use of sulfasuxidine, streptothricin and Streptomycin in nutritional studies with the chick; J. Biol. Chem., 165:437, 1946.

44. Harned, B. K., R. W. Cunningham, M. C. Clark, R. Cosgrove, C. R. Hine, W. J. McCauley, E. Stokoy, R. E. Vessey, N. N. Yuda and Y. Subba Row—The pharmacology of duomycin (Aureomycin); Ann. N. Y. Acad. Sci., 51:182, 1948.

DEALERS! the proof is in the profit!

SELL GEERLINGS WEANING MEAL

(The ORIGINAL dry weaning meal for 3-week weaning of baby pigs!)

Whether it's producing results on the hog lot or ringing up sales in the feed store — the thing that counts most is how much PROFIT you make! For 3 straight years Geerlings WEANING MEAL, along with the complete, original Geerlings 3-STEP PLAN for swine production, has helped make hog raisers more money than they ever thought possible! What helps the farmer helps YOU.

HERE'S WHAT GEERLINGS *WEANING MEAL* MEANS TO YOU!

1 You sell the ORIGINAL dry weaning meal of the hog lot . . . a feed with a PROVEN record of results on 3-week weaning of baby pigs.

2 You get aggressive, inquiry-producing advertising, combined with valuable premiums for feeder meetings. This combination has resulted in 80% SALES CLOSED on feeders called on by salesmen and dealers.

3 A Dealer Contest That MEANS Something! (This year one of our top prizes to dealers is a new "Ford" automobile . . . Plus $40,000 in other prizes.)

ACT NOW! Cash in on a real, money-making opportunity. Get complete details on our attractive dealer set-up. Write today to

GEERLINGS FEED MILLS

Box 1795 • WATERLOO, IOWA

We have . . . Ray Ewing PERFORMANCE PRE-MIXES

Distributed in Utah and Southern Idaho by:
Alan Bader
214 24th Street
P. O. Box 267 • Ogden, Utah
Telephone: Ogden 9525

We have . . . Ray Ewing PERFORMANCE PRE-MIXES

Distributed in Arkansas, Oklahoma and Texas by
The Tommy Thompson Co.
5617 Dryden Road —— • —— Fort Worth, Texas
Telephone: Wilbster 0005

We have . . . Ray Ewing PERFORMANCE PRE-MIXES

Distributed in Washington, Oregon, Montana, No. Idaho and British Columbia by:
LEO COOK CO.
Feedstuffs
95 Connecticut St. Seattle, Wash. MAin 0737
410 Lewis Bldg. Portland 4, Ore. CApitol 1913

We have . . . Ray Ewing PERFORMANCE PRE-MIXES

Distributed in Minnesota, North and South Dakota and Western Wisconsin by:
Blomfield-Swanson
6009 Wayzata Blvd., Minneapolis 16, Minn
Phone: ORchard 5-8805

We have . . . Ray Ewing PERFORMANCE PRE-MIXES

Distributed in Iowa by
V. A. MAGNUSON SALES COMPANY
804 10th Street West Des Moines, Iowa
Des Moines 9-7897

We have . . . Ray Ewing PERFORMANCE PRE-MIXES

Distributed in Nebraska, Kansas, Missouri and Eastern Colorado by:
The Robert E. McCully Company
525 East Armour Blvd. Kansas City 9, Missouri
Phone Valentine 7021

We're Celebrating

Our Tenth Year Of Service To The Feed Industry . . .

Ray Ewing
President

Jack Plonsky
Executive Vice-President

Proud? Yes, we're proud of the progress we've made since 1945. It's largely the result of the genius and foresight of Ray Ewing whose hobby and life work for over 30 years has been the development of poultry and animal nutrition. Under his guidance The Ray Ewing Company pioneered and developed many "Firsts" for the benefit of the feed industry.

Thousands of feeding tests in collaboration with the U.S.D.A., Colleges and Experiment Stations have given the feed industry better feed fortification at lower cost. Precision blending of all Ray Ewing products, a constant awareness of the scientific and nutritional needs of the feed industry, and the creation of products to fulfill those needs, have been factors which promoted the phenomenal growth of The Ray Ewing Company.

Free information and nutritional service has been a feature of The Ray Ewing program since the company was founded. All Ray Ewing distributors are nutritionists, well qualified to give on-the-spot assistance with nutritional and feed mixing problems. Special custom mixes, built to your individual requirements have always been a service of the company.

Today Ray Ewing products are available to you anywhere in the U.S.A. Two mixing plants and ten convenient warehouses guarantee fast delivery.

We pledge that The Ray Ewing Company will continue to produce products which meet your needs with the highest standards of quality and quality controls — "QUALITY GOES IN BEFORE THE NAME GOES ON!"

Ray Ewing 1945
Ray Ewing 1946
Ray Ewing 1947
Ray Ewing 1948
Ray Ewing 1949
Ray Ewing 1950
Ray Ewing 1951
Ray Ewing 1952
Ray Ewing 1953
Ray Ewing 1954
Ray Ewing 1955

SEE YOUR LOCAL RAY EWING DISTRIBUTOR TODAY!

RAY EWING IS THE AUTHOR OF THE TEXTBOOK

The Ray Ewing Company

1097 South Marengo Ave. Pasadena 5, California

Congratulations

TO THE MILLER PUBLISHING COMPANY AND **FEEDSTUFFS**
ON THEIR 25 YEARS OF
PROGRESSIVE SERVICE TO THE FEED INDUSTRY

AND CONGRATULATIONS

TO THE FEED INDUSTRY FOR ACHIEVEMENTS IN RESEARCH,
QUALITY CONTROL, AND SERVICE.
BY HELPING THE AMERICAN FARMER PRODUCE
BETTER MEAT, MILK, AND EGGS MORE ECONOMICALLY
YOU HAVE EARNED HIS CONFIDENCE.
AT THE SAME TIME, AN EXPANDED POPULATION HAS BEEN GIVEN
A BETTER DIET THROUGH GREATER SUPPLIES OF THESE FOODS.

Merck Supports the Feed Manufacturer with an Intensive Advertising and Promotion Program to Farmers

Merck Milestones in 25 Years of Feed Industry Progress

Important chemical substances developed to speed growth and guard health of poultry and farm animals—direct results of Merck research and production, in co-operation with universities, agricultural experiment stations, and research farms of the feed industry:

1930 IODINE PRODUCTS. Products especially designed for the feed industry offered commercially by Merck.

1938 RIBOFLAVIN (VITAMIN B_2), NIACIN, AND NIACINAMIDE. First successful synthesis of riboflavin by a commercially practical process announced by Merck chemists, and offered in form suitable for use in feeds that year. Niacin and niacinamide also made available for animal feeds in 1938.

1940 D-CALCIUM PANTOTHENATE. First identified and synthesized by Merck chemists. Offered commercially the same year.

1943 CHOLINE. Choline chloride developed in a dry form suitable for incorporating into feeds by Merck.

1946 STREPTOMYCIN. Manufacturing process developed by Merck scientists, working with Dr. S. A. Waksman of Rutgers University. Supplies of this important antibiotic offered the same year. VETSTREP®, granules of streptomycin sulfate and spray of dihydrostreptomycin, for control of certain livestock and poultry diseases, introduced by Merck in 1953 and 1954.

1948 VITAMIN B_{12}. Isolated in pure crystalline form by Merck researchers. Offered in feed supplement form in 1949.

1948 SULFAQUINOXALINE. Developed by Merck researchers. The first successful coccidiostat for continuous preventive use in feeds. Offered to feed industry in 1948.

1951 PRO-PEN.® (Merck Procaine Penicillin.) Developed by Merck Research Laboratories. Offered to feed industry the same year.

1955 NICARBAZIN. Developed by Merck Research Laboratories. Supplied commercially the same year.

Research and Production for Better Animal and Poultry Nutrition

MERCK & CO., INC.
Manufacturing Chemists
RAHWAY, NEW JERSEY

"All Your Needs in Grain and Feeds"

SUNSET FEED & GRAIN CO., INC.

PHONE CLEV. 2938 — 805 Dun Building, Buffalo 2, N.Y. — TWX BU 71

FEED JOBBERS
AND
DISTRIBUTORS OF

KELLOGG HOMINY FEED — HUBINGER GLUTEN FEED
DYNAFOS AND 20/FOS DICALCIUM PHOSPHATE
PACIFIC MOLASSES — CONSOLIDATED DRIED WHEY
DUPONT'S 262 UREA FEED COMPOUND
STONEMO GRANITE GRIT — CALF MANNA
CHAS. PFIZER & CO. FEED SUPPLEMENTS
WHEAT GERM OIL — WHEAT GERM
SUNSET BRAND FEED (A DRIED WHEY BY-PRODUCT)

INQUIRIES APPRECIATED

A LOOK AROUND

(Continued from page 10)

is another man who believes that an association worth belonging to is worth working for.

A. F. Seay, Ralston Purina vice president and chairman of the code committee of the association, was vehement in denying the committee's responsibility for the consignment clause in the NRA code . . . The wording of the clause puzzled most of the feed men . . . It was written by AAA officials and undoubtedly there will be many requests for interpretations . . . J. H. Leftwich, Mobile molasses king, reported a brisk demand for that product, apparently for use in the low-cost dairy rations so popular in drouth areas.

O. A. Severance and Henry Lichtig, Vanderslice-Lynds Co., represented Kansas City grain men at the meeting . . . They were successful bidders on about 10,000 tons of bran for grasshopper poison bait this spring, but said they would stick to private business in the future . . . Too much red tape . . . A part of the bran was used for drouth relief rather than for grasshoppers, they reported . . . Largest delegation to the convention this year came from the South and the East.

v v

1935—FRENCH LICK

The French Lick Springs Hotel estimated that 240 people were attending the convention, although the official registrations taken by Betty Traisman numbered only 200. . . . That is all of the dry statistics, but one of the barmen estimated that 100 mint juleps were sold at $1 per frosted cup. . . . Jerry Cassell, of Clo Trate, took a group of the bridge players around the hotel shops to help select a tournament prize . . . the final decision was on a $10 bill. . . . This year was the first at which contract was played in the tournament. Previously, auction was played at all tables. . . . J. B. De Haven, of Allied Mills, paid $15 for an extra hour of music on Saturday evening, according to the gossip passed around.

A. W. Erickson, Mid-Continent Grain Co., Kansas City, is an expert crop observer who came direct to the convention from a study of southwestern conditions. He had maps and charts with him, which interestingly illustrated the remarkable recovery in that area, especially in sorghums. . . . Those Pilot brand cigars and pencils have become as much of a fixture at the feed conventions as the president's address. This was the eighth year they have been passed around.

Vic Jay, the Nopco fashion plate, looked like a certain golf prize winner on the first few holes of the tournament. With a 20 handicap, he started out 6-4-4-4. On the short hole up the bluff his caddy handed him a five iron instead of a six and the ball soared into the deep woods, the result being an eight on a par three hole. . . . Vic was so upset that he couldn't see his ball on the next tee, and missed it by a foot and a half. . . . John Jouno, Donahue-Stratton, appears to be in good health, but is afraid he will have to return to the hospital for the third time for an operation. . . . Tom Sexton, Seavey & Flarsheim, Kansas City, had a peculiar experience at Brown's. The ball landed on number 17, stopped, then hopped halfway around the wheel to settle finally on number four. . . . Tom was betting both numbers on the nose.

J. H. Leftwich, the molasses man, is planning to take a group of friends on his boat to fish in Gulf waters soon. . . . J. J. Ferguson, Swift & Co., is off the association's board of directors for the first time in many, many years. . . . The directors made up a pot and purchased an oil paint-

Your Best Buy is

DEHYDRATED ALFALFA

Why **DEHYDRATED ALFALFA IS BETTER THAN EVER**

1 Improvements in growing, harvesting and handling of the alfalfa plant.
2 Improvements in the dehydration process.
3 Increased use of fats, oils and antioxidants.
4 Pelleting and Granulating.
5 Increased blending and preservation storage facilities.

DEHYDRATED ALFALFA

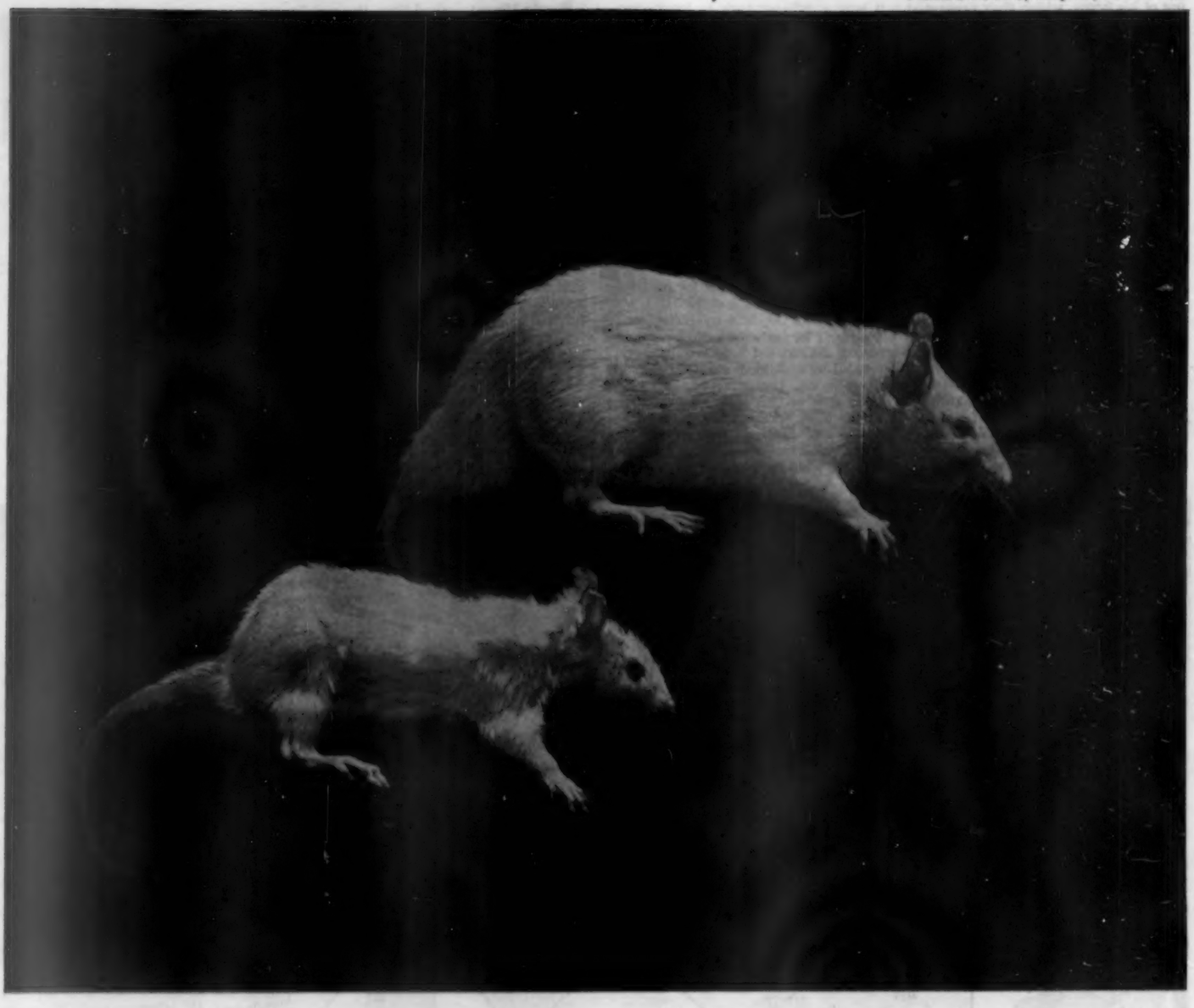
Dehydrated Alfalfa gives you more in overall nutritional value. It contains 17% protein, 2% fat, 25% fiber, and supplies per pound about 60 mg. carotene, 7 mg. riboflavin, 15 mg. pantothenic acid, 35 mg. vitamin K, 60 mg. vitamin E, and 4 mg. folic acid. In addition it is a source of unidentified growth and reproductive factors for poultry and swine, and of unidentified factors for rumen nutrition.

The feed industry can obtain a feed ingredient high in known nutritive content, plus the intangible value of unidentified factor(s). It is more acceptable in appearance, with better texture and handling qualities. Nutrients are more stable because of improved production methods.

ADA American Dehydrators Association
PASTURE IN THE BAG
DWIGHT BLDG. KANSAS CITY 5, MO.

WRITE OR PHONE
American Dehydrators Association
801 Dwight Bldg.
Kansas City 5, Missouri

FEED INGREDIENTS & GRAIN
DANNEN
Soybean Meal • Cottonseed Meal • Linseed Meal • Alfalfa Meal • Brewers Grain • Oat Meal • Feed • Bran & Shorts • Fish Meal • Tankage • Meat Scraps • Molasses • Crimped Oats • Crimped Barley • Corn Chop • Ground Grains • Chemical Fertilizers
DANNEN MILLS, inc.
GRAIN AND JOBBING DIVISION
ST. JOSEPH, MO. PHONE 3028



Feed phosphorus studies at International show how . . .

health can hinge on a hairline

• Alter a diet . . . in laboratory *OR* feedlot. Short it of any essential ingredient. Let a mineral of low availability replace a dynamic one. The smallest change can tip the balance from vigorous, healthy growth to undernourished, unthrifty animals.

To poultry and livestock producers, it can mean the difference between profit and loss. To those who formulate and manufacture feeds . . . as to those who supply the ingredients . . . it is significant in terms of feed performance.

This commonly acknowledged fact is basic to feed research at International Minerals. It's one reason why fundamental studies of phosphorous metabolism are continuously made to compare dynamic quality. Constant checks on biological availability are standard laboratory procedure.

Such thorough and long-standing research is an important factor in maintaining high standards of quality in all International feed ingredients. It has aided in the development of new feed phosphorous products which are 2 to 4 times more effective nutritionally than some sources previously used.

These products now provide the feed industry with "harder working" phosphorus to meet the stepped-up needs of poultry and livestock today.

"Through research - more dynamic feed phosphorus products"

MINERALS International CHEMICALS

INTERNATIONAL MINERALS & CHEMICAL CORPORATION

General Office: 20 North Wacker Drive, Chicago 6

Sales Agents: A. G. GREENE CO., Charlotte (N. Carolina) • BLOMFIELD-SWANSON, Minneapolis • CHARLES F. WILLEN CO., INC., Birmingham (Ala.) • E. A. CARTER BROKERAGE CO., Tampa • EDWARD E. SMITH CO., Atlanta JAMES FARRELL & CO., Seattle and Los Angeles • GRANDOWE, INC., Needham (Mass.) • M. A. McCLELLAND CO., Kansas City (Mo.) • MERCHANTS CHEMICAL CO., Omaha • P. R. MARKLEY, INC., Philadelphia • R. O. ERWIN CO., Nashville • STANDARD SALES CO., Meridian (Miss.) • SUNSET FEED & GRAIN CO., INC., Buffalo • H. D. HOGG, LTD., Toronto

ing of his home, which they presented Friday evening to C. A. Coddington, Beacon Milling Co., Cayuga, N.Y., who has served as the association's president through two memorable and strenuous years.

1936—WHITE SULPHUR

The beauties (scenery) of White Sulphur Springs could hardly be exaggerated, the management was pleasant and the hotel was luxurious and reasonable, considering its completeness and swank. . . . Chief objections were to service in the main dining room, which was often slow and occasionally rather impudent, and to the size of the hotel. . . . At French Lick the feed crowd was just about in complete possession, and it was easy to see everybody. . . . At White Sulphur, the opposite was true. Two other conventions were running at the same time as that of the feed manufacturers and there were many other guests. . . . There were so many places for a person to be that it was a difficult task to locate anyone.

The rain on Thursday washed out the qualifying round of the golf tournament for the first time in many years. . . . But it was a beautiful sight to see the storm sweeping over the Alleghenies and up the valley, even if the hailstones did raise bumps when they hit. . . . The taxis made plenty of money hauling golfers back to the clubhouse that afternoon. They cut directly across the fairways to the shelter houses after their passengers. . . . People have more fun than anybody, but Gus Ackerman has more fun than most people. . . . Playing golf Wednesday afternoon with Jack Barton and Neil Barrett, Gus missed the ball by inches on a tee shot; he turned to the others and asked, "What did I do wrong then?" . . . Lloyd Riford carried a movie camera on the course and got a good shot of Gus trying to shoot out of the huge rocks in the ditch on No. 16, and of Jack Barton, Nopco, who was hysterical over the Ackerman efforts, whiffing his next shot.

Searle Mowat rushed from the convention back to Detroit in order to leave June 15 with Mr. Larrowe for the Pacific Coast. . . . The Buffalo delegation occupied two Pullmans, and a railroad official in their home town sent along his private car for them to play in. . . . More golf prizes went to the Buffalo boys than to any other delegation. . . . Don't they work in the afternoons up there? . . . They took a total of 10 trophies. . . . Les Bopst and Wayne Martin hired an old delivery truck to meet Jim Dougherty at the train Wednesday evening, but the latter gave them the slip. . . . Jerry MacNicol quit playing golf the day of the tournament at the sixteenth hole—the "swan" hole, after he had put three balls in the lake. . . . This hazard presented the necessity for 180-yard carry if a golfer went straight for the pin, and several dozen balls splashed among the swans during the tournament. . . . Andy Lippelman was the prize optimist at this hole. . . . After his drive had skipped to within two feet of the far bank, before it sank, he remarked pleasantly, "If it had skipped once more it would have been over."

Total registration, including the ladies was 234. . . . Max Nowak and his wife were accompanied by their daughter, as were Mr. and Mrs. E. A. Webb, while Mr. and Mrs. J. M. Adam had their son and daughter along. . . . Mr. and Mrs. A. E. Chapman brought their two daughters. . . . If the young people keep on coming, maybe the association should stage a dancing contest for them . . . Mr. and Mrs. Max Cohn, Mr. and Mrs. B. M. Schulein, Floyd Wilson and Bill Nye were among those who stayed at the hotel until Sunday evening. . . . C. C. Dawe and Mrs. Dawe, the Monday after the convention, sailed on the Normandie for Europe on a month's vacation.

Roy Eshelman traded the county sheriff out of his hat at the Plaza, all-night hamburger rendezvous, and then traded the hat for a taxi driver's cap. . . . Neil Barrett, Northrup, King & Co., Minneapolis, sliced a drive 30 feet into the heavy woods and was just reaching for another ball to play when the first one hit a tree and bounced back into the fairway a good 180 yards from the tee. . . . Frank Fader on Saturday afternoon sank a 145-yard approach shot on the 11th hole, giving him a birdie three. . . . He retired the ball from play to place it among his souvenirs.

1937—HOT SPRINGS

Competing for the 57 golf prizes were 150 men, and some of them were good golfers . . . The low gross prize for 36 holes was won by Ben Ticknor, II, Commercial Molasses Corp., New York, with 152 . . .Virgil Ferneau, Ferneau Grain Co., Blanchester, Ohio, had the low gross score in the qualifying round with a 75 . . . The course was short but rather tricky, calling for accurate placement of shots. The greens were small and as fast as table tops, which added to the scores of most participants.

Bill Westerman, of the Oyster Shell Products Corp., St. Louis, hurried home from the convention because of an anticipated Blessed Event . . . Fred Thomas, Larrowe Milling Co., Detroit, recited a Eugene Field verse one night that especially pleased Jack Stuart, Reliance Feed Co., Minneapolis. Here it is: "He is not drunk who from the floor can rise again and drink some more; but he is drunk who prostrate lies, and cannot drink and cannot rise." . . . Ralph Field, who went to Hot Springs the Saturday before the convention started, was playing golf on the Cascades course one day and discovered deer tracks in a sand trap . . . Ralph kept an eye peeled for bears from then on . . . Charles Van Horssen, General Mills, Chicago, swears he heard wolves howling one night, but they may have been in the aforementioned zoo.

Jerry MacNicol again acted as master of ceremonies at the presentation of golf prizes, and was enabled to put his stuff over much more

INDUSTRY COOPERATION

The old idea of trying to outsmart your competitor has changed into one of trying to out-serve him with the dealer and farm. There has been an outstanding development of the exchange of information of all kinds among competitors. This is demonstrated constantly at technical meetings and schools.—E. G. Cherbonnier, Grain & Feed Dealers National Assn.

PRATERIZE
YOUR PLANT
WITH
Blue Streak
EQUIPMENT
Blue Streak Twin Spiral Mixer with Semi-Automatic Sacking Scale
Prater Double Gap Permanent Magnet
Blue Streak Advance Custom Mill
Triple Reduction produces GRANULAR GRIND
Blue Streak Advance Custom Mill with Pratermatic Screen Change
Blue Streak Twin Spiral Mixer
Blue Streak Corn Cutter and Grader
Blue Streak Vertical and Horizontal Screw Conveyors
Blue Streak Cob Crusher
Prater Automatic Crusher and Feeder
Blue Streak Double Chain Drag Feeder
Blue Streak Grain and Attrition Mill Blower

"Put your house in order" for peak season business. Make sure your equipment is modern, efficient and economical and that the capacity is sufficient to handle *all* your requirements. Let Blue Streak break the bottle-necks and shoulder the responsibility of giving your customers the finest and fastest grinding, mixing, cob crushing, corn cutting and material conveying. Talk it over with a Prater sales engineer. He can help you step up your service, sales, and profits. Do it now!

PRATER PULVERIZER COMPANY
1537 S. 55th Court, Chicago 50, Ill.

BLUE STREAK Prater

MEMBER GRAIN PROCESSING MACHINERY MANUFACTURERS ASSOCIATION

SPECIFY
Columbia Calcium
COLUMBIA QUARRY CO.
1007 Washington Ave.
ST. LOUIS 1, MO

Pillsbury specialists boost business for feed dealers

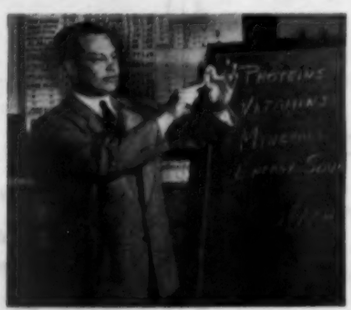
and here's how... These are the special tools and the specially trained people who make your partnership with Pillsbury the most valued dealer franchise in the feed business.

Take a fast look at these pictures. See how Pillsbury turns new feeds, new methods into sure selling tools on farms and in feed stores just like yours.

Can you qualify for the Pillsbury dealer partnership franchise in your town? Write, phone or wire Pillsbury Mills, Clinton, Iowa.

Specialized feeding plan pulls dealer, feeder and Pillsbury salesman together on the farm. First they inventory the farmer's livestock, poultry and home-grown feed supply. Then they're able to tailor the right Pillsbury feeding program to the farmer's individual needs. Result: a sale for the dealer on seven out of ten calls!

Specialist Dr. S. H. Morrison pioneers new feed research at Pillsbury. He's a frequent speaker at dealer-sponsored feed meetings.



Specialist E. A. Blasing heads Pillsbury's nutrition staff. He's the guardian of the industry's strictest quality feed standards.

Specialist D. W. Martin—30 years a poultry feeding expert—he talks turkey, and chickens, at feeder meetings from coast to coast.

your partner's a specialist when you sell

Pillsbury's BEST Feeds

Pillsbury Mills, Inc., Feed & Soy Division Headquarters: Clinton, Iowa

BURROWS Portable Elevator

New All Bolted Construction

- Light Weight Aluminum
- 8, 12, 16, 20, 24 and 28 ft. lengths
- Gas engine or electric power
- Extend any model with 4 ft. sections

With this elevator, one man can do the work of two. Handles up to 500 bu. shelled corn per hour. Start with any model—2-8 ft. sections can be expanded to 28 ft. by inserting 4 ft. extensions. This new model has a replaceable wearstrip for chain—takeup for chain at foot shaft—hook for hanging on sideboard. Ideal for poultry litter, ear corn, grain, feed, fertilizer, etc. Will pay for itself.

VERTICAL SCREW CONVEYOR

For faster vertical handling of grain, feed, minerals, etc. Built to the length you need in diameters of 6" — 9" — 12". Easy clean out features.

BELT & BUCKET ELEVATOR

Heavy construction, all-steel head and boot and rigid steel legging. Self supporting — available in standard sizes, any height. Completely pre-assembled, priced reasonable.

AUGER ELEVATOR

For filling or loading out big bins — moves grain fast with minimum manpower — sturdily built — easy to move about — sizes 25-30-35-40-50 ft.

All Your Needs—All The Time

Write for Complete Information and Free 100-page Catalog

BURROWS EQUIPMENT COMPANY

1316-C Sherman Ave. Evanston, Ill.

effectively through the use of a microphone . . . Doc Hawley took over for presentation of a sterling tray to Mr. and Mrs. H. L. McGeorge, Royal Stafolife, Memphis. It was a gift from the board of directors in recognition of Hal's services to the association as president for the past two years . . . The train between Covington, Va., and Hot Springs was derailed twice in the 25 miles Tuesday morning. It was finally discovered that some smart mechanic had neglected to remove the blocks from the drive wheels after the engine had been overhauled the night before. . . . Word traveled to the hotel that there had been a wreck, and all available buses and cars were dispatched to the scene, but the rescuers found the feed men calmly picking wild strawberries along the right of way . . . Les Bopst, Maryland feed control official, formerly was tennis coach at the University of Maryland.

Every year at the convention something happens to Harry Cowan, Spencer Kellogg & Sons, Minneapolis. This year he lost his voice, last year he lost his baggage and the year before he broke his arm . . . The most hilarious foursome on the day of the tournament consisted of Tom Sexton, Cereal Byproducts, Kansas City; Jim Dickinson, Glidden Co., Chicago; Marlon Brando, Calcium Carbonate Co., Chicago, and W. A. Rothermel, Merck & Co., Rahway, N.J. . . . They hired a taxi to follow along the road and meet them at various tees with something to keep up their strength. Rothermel knelt on the sod and prayed to Allah for his putts to sink and once, when he skied a tee shot, he yelled, "Fore Lord!" . . . We must introduce Ware Bosworth, Cereal Byproducts' Boston man, to our wife sometime. He insisted one evening upon turning his summer lodge, on the ocean north of Boston, over to Rosemond Straube and Ye Editor for a week-end. He still doesn't know that the girl wasn't Mrs. Yantis.

At least two candid camera enthusiasts will surprise friends with unposed shots taken at Hot Springs and en route . . . They are Marlon Brando and Albert A. Teeter. The latter, who is treasurer of Chas. Pfizer & Co., Inc., New York, goes for the hobby in a big way. He has about $8,000 invested in equipment, of which he had $1,700 worth at the convention. . . . He has had an air-conditioned dark room built into his home and has taken more than 4,000 pictures, doing the developing and enlargements himself, and keeping them all under a cross index . . . He snapped about 75 pictures at the convention.

v v

1938—FRENCH LICK

Total attendance at this year's convention of the American Feed Manufacturers Assn. was 359, largest in the history of the organization. Largest previous convention was last year at Hot Springs, when 281 attended. At White Sulphur Springs in 1936 there were 258 registered . . . Varied reasons were expressed for the steady increase including that given by one man that "misery loves company" . . . Others mentioned such things as better publicity, confused political and economic conditions, a more active association. While all of these probably are factors, the last would seem to be the most important . . . Not only have more interesting and more practical programs been presented in recent years than formerly, but the work of the association throughout the year has been of such outstanding value to members that interest in the organization has been stimulated.

The French Lick Spring Hotel people said it is the best behaved and most liberal convention crowd they entertain, so that guy in the room next to you must have been a gentleman in spite of the noise he made. . . . The mimeographed registration list, gotten out the first day of the meeting, before everyone had reg-

MEDOGREEN

ALFALFA MEAL

HIGH IN VITAMIN A

LABORATORY CONTROLLED for UNIFORMITY AND QUALITY THE YEAR AROUND

CENTRAL EASTERN PRODUCTION

CARLOAD OR TRUCKLOAD LOTS

WE PRODUCE ALL GRADES OF TOP QUALITY BREMCO SUNCURED ALFALFA MEAL THE YEAR AROUND

SPLIT LOAD SHIPPERS

BREMCO ALFALFA MILLS, INC.

NEW BREMEN, OHIO **PHONES 3221 or 3251**

USE TRIPLE FIFTY

A BRAND NAME THAT SPELLS QUALITY

A DRIED FISH SOLUBLE PRODUCT

DRY FREE-FLOWING

Economical to use and will enable any mixer, regardless of size, to use FISH SOLUBLES in his feeds at recommended levels.

It is composed of

- √ **Condensed fish solubles dehydrated on a carrier of soybean oil meal**
- √ **50% condensed fish solubles**
- √ **50% soybean oil meal**
- √ **50% minimum protein guarantee**

NO POULTRY OR SWINE FEED IS COMPLETE WITHOUT THE ALL-IMPORTANT GROWTH FACTOR(S) FOUND IN **FISH SOLUBLES**

KEES & COMPANY

National Distributors for

W. C. PRATT CO.

327 South LaSalle St., Chicago 4, Ill. Phone HArrison 7-1528

istered, showed 90 from the East, 71 from the Middle West, 47 from the South and 8 from the Far West . . . This is a far cry from the not-so-long-ago days when a complaint was voiced that it was strictly a middle western convention . . . There were two registrations from Canada, one of them, J. A. Naylor, representing the Naylor Feed Mills, Essex, Ont., and the other, Anger Armstrong, Hiram Walker & Sons Grain Corp., Walkerville, Ont . . . Jerry Cassel, White Laboratories, Newark, likes to tell people of calling on ye editor at the latter's home after ye ed had fallen out of his office chair and sprained his back.

Les Brown, the Nopco troubadour, led the banquet crowd in the singing of Auld Lange Syne just before the train departed for Chicago on Friday night. Assisting him at the microphone were Bill Westerman, Oyster Shell Products Co., St. Louis; C. B. Fretwell, Spartan Grain & Mill Co., Spartanburg, S.C., and Tom Wilkinson, Kraft-Phenix Cheese Corp., Chicago . . . Ben Ticknor, II, Commercial Molasses Corp., New York, all-American football player and crack golfer, apparently has decided to add shooting to his list of sports. He picked the Marlin over-and-under gun as his golf prize . . . Roy La Budde, La Budde Feed & Grain Co., Milwaukee, and a pal of his claim the bridge championship of their city. Roy spent a bad afternoon in the hotel garden outside the open window of the room where the women were holding their bridge tournament. He couldn't see the cards, but he was certain the girls were not bidding their hands right.

A. F. Seay, Purina Mills, St. Louis, had the distinction of making two birdies on one hole in the same round of golf. Playing the 110-yard fifth, he and Hal McGeorge, Royal Stafolife Mills, Memphis, each hit a tee shot within a short distance of the hole. Mr. Seay by error putted Mr. George's ball and sank it for a deuce. The mistake was discovered and so Mr. Seay then putted his own ball and also sank that one . . . Oscar Straube, Nutrena Mills, Kansas City, was advised by his wife to take a drink whenever he started to feel too serious about anything, but whether he followed the advice deponent sayeth not . . . Mrs. Straube took charge of Max Nowak's cash after he had won $183 at Brown's, and allowed him only 25¢ for spending money until he was ready to go home . . . Mr. Nowak several months ago sold his brands and leased his feed manufacturing plant at Hammond, Ind., to Vitality Mills, Chicago. He announced at the time that he was tired of paying excessive taxes and making unnecessary reports to government agencies. This was published in many newspapers and he received 2,200 letters from all over the country, and only 100 of them condemned his attitude.

A resolution was passed in memory of Sherman T. Edwards, Chicago, and Bryant T. Maynard, New Orleans. Both men were members of the association for many years and regular attendants at the conventions, and have died within the year.

♥ ♥

1939—SARANAC

Aside from the several minor irritations caused by the hotel and its management, the 1939 feed manufacturers' convention was one of the best on record . . . Attendance was around 375, exceeding the former high of 360 reached a year ago at French Lick . . . Jerry Parks, the Kansas City feed merchant, got scared of the stories of cold weather he would encounter at Saranac, and rushed out between trains in Chicago and bought a top coat. . . . He also brought his fishing tackle, but didn't catch any fish, and ended up playing golf . . . Max Nowak wouldn't believe his pals when they told him the Chicago-Saranac train was to be split into two sections at Buffalo. He stayed in the lounge car and had to keep awake all by himself until both trains pulled into Utica at 3:30 a.m., where he made contact with his sleeping quarters.

The numerous riding enthusiasts at the convention were disappointed to find only three horses in the Saranac stables, and they had delivery wagon pedigrees. L. R. Hawley, Quaker Oats Co., Chicago, decided to make the best of things as they were and started out for a canter one day, but soon became sorry for the horse and sent for transportation to bring them both back to the hotel . . . J. W. Kellogg, Institute of American Meat Packers, Chicago, scared some of his fellow scientists, who also must eat, by telling them of a machine that would eliminate any need for chemists . . . Lloyd Hedrick, for many years manager for the Ralston Purina Co. at Buffalo, signed up for the golf tournament as being from the Larrowe Milling Co., Detroit. At least that appeared on the blank; maybe he had a ghost writer.

C. A. Coddington, Beacon Milling Co., Cayuga, N.Y., is the last of the old guard. He was the only one to appear on the golf course in knickers . . . For the first time in the history of the convention, one of the golf prizes was snitched from the display table. It was an electric razor, and the thief left only the box it came in. The association made good the loss . . . Charles M. Cox, of Boston, is 75 years old, but he toured the golf course in 104, which was as good as many a stripling could do . . . Someone bet $1,500 on A. B. Baker, Bradley & Baker, New York, in a golf match on Tuesday afternoon. The match ended all even, with Baker sinking a long putt on the eighteenth green to square it. He didn't know about the bet until after the match had started.

Frank Rosecrans, the Chicago broker; Earl Meyers, Clinton, Iowa, and Searle Mowat, Larrowe Milling Co., Detroit, are old cronies. One of their reminiscences concerns a time in Chicago when Meyers and Mowat ganged up on Rosecrans in a matching game and cleaned him of a substantial sum, and then refused to lend him carfare home. The next day they admitted the frameup and returned their winnings . . . Les Bopst, Maryland feed control official, won a handsome wrist watch as a golf prize. As he was showing it proudly to a group of friends, Perce Brown substituted his own watch for it. The substituted time piece had a different type of strap, a rectangular instead of a round face, and it wouldn't run, but admiring friends continued to exclaim over it, and Les, after a final fond look, snapped the box shut and put it back in his

(Continued on page 122)

Bacteria or Flies—

EITHER CAN DEVELOP RESISTANCE!

BACTERIA LIKE FLIES are capable of developing a resistance to control agents.

Are you formulating or using a feed containing an antibiotic which may develop resistant disease bacteria? If you are, you should know these facts about new Bio Pabst B-333. Scientific records show that new Bio Pabst B-333 containing bacitracin provides lasting protection against development of resistant bacteria. When using a feed supplemented with a high level of Bio Pabst B-333, you are actually getting the most effective, the most complete antibiotic protection money can buy.

New Bio Pabst B-333 offers high effectiveness against these diseases—Chronic Respiratory (Air Sac) Disease, Blue Comb Disease (Pullet Disease, Mud Fever, Non-Specific Enteritis), and Infectious Sinusitis.

New Bio Pabst B-333 is also effective against Infectious Swine Enteritis.

Start profiting from this great news right now. For high-level feeding make sure your feed is supplemented with 3 to 6 pounds per ton of new Bio Pabst B-333.

For more information on how Bio Pabst B-333 can help you, write—

PABST BREWING COMPANY
Animal Feed Department–D5
Milwaukee, Wisconsin

INSIST ON FEEDS SUPPLEMENTED WITH NEW

Bio Pabst B-333
MADE BY THE MAKERS OF

Pabst Blue Ribbon®

PUT YOUR FAITH IN PABST
FOR THE FINEST IN FEED SUPPLEMENTS

Pabst Feed Supplements are available for prompt shipment from the plant or our distributors' warehouse stocks located at:

Carroll Swanson Sales Co.
620 Des Moines Building
Des Moines 9, Iowa
Phone—4-5177

P. G. Callison Co.
935 N. W. 12th Avenue
Portland 9, Oregon
Phone—Capitol 7271

Feed Service Co.
502 S. Front Street
Mankato, Minnesota
Phone—81636

Seley & Company
900 Wilshire Boulevard
Los Angeles 17, California
Phone—Mutual 1371

Theo. W. Martin & Son
1401 Peach Tree Bldg.
Atlanta 5, Georgia
Phone—Atwood 3811

Copyright, 1955, Pabst Brewing Company, Milwaukee, Wisconsin. Trade Marks Reg. U. S. Pat. Off.

For Finer Packaging
Look to Fulton BAG & COTTON MILLS First

Ringing the Cash Register

The Year Has Changed But Basic, Proven Merchandising Principles Stay the Same

Successful retail feed dealers of 25 years ago applied the same basic principles of merchandising which money-making dealers are using today. Like then, some dealers today invite business disaster by violating sound selling rules. Feed merchandising and feed stores generally have improved during the past 25 years, but one authority says 65% of the feed dealers today still do not really try intelligently to sell feed. He says feed retailing remains the weakest link in the generally stronger feed industry chain. Basic merchandising principles have been stated and restated through the years. Feedstuffs files of 25 years ago contain reports of what feed dealers and sales authorities had to say then about selling. Some of these words of advice are reprinted verbatim in the left column. Directly across the page are exact excerpts from articles printed in Feedstuffs within recent weeks. A comparison of these statements makes it obvious that merchandising principles remain the same through the years and that intelligent dealers put them into daily practice.

25 Years Ago They Said . . . . . .

Today They're Saying . . . . . .

Farm Gate Selling

Analyze your market. What is your territory going to be? Will it have a radius of five, 10 or 15 miles? Get all the figures together. Go down every road and talk to every farmer. See how much feed, machinery or fertilizer each of them can use. Find out how many cows, chickens, hogs and horses each fellow has. Figure the tonnage that he will need. Set your goal, if you are very energetic, at 75% of the requirements.—A. W. Carpenter, sales manager, Larrowe Milling Co., Detroit.

Do you realize that here in Ohio there is a potential feed business of over $300 million per year? Did you know that we, the feed manufacturers and feed dealers of Ohio are obtaining only 50% of that potential? Actually within your own serving area, lies just as much additional tonnage as you are now selling. Good tonnage just does not happen. It takes planning—effort—farm gate selling.—Ralph E. Dower, Toledo, Ohio, branch manager, Kasco Mills.

Credit Control

There are five credit considerations: (1) Realization that collections are just as important as any other part of the business. (2) Willingness to give it the same attention as any other part of the business. (3) Courage to ask credit information and turn down undesirable risks. (4) Frankness with your customers on credit subjects. (5) Courage to collect and to live up to your threats.—Willard D. Isham, Milwaukee accounting and credit expert.

There is a definite four-point program for credit management in the feed business: Select your credit customer; don't let him select you. Build an understanding with him, especially when payment is to be made. Follow up all accounts. The collection follow-up is to make sure the understanding about the payment is carried out. Secure mortgages on operations where credit reports indicate their need for protection.—James H. Burrell, president, James H. Burrell & Sons, Inc., St. Louis.

Grinding At a Loss

Grinding feed at a loss and delivery without a charge are both types of price cutting, as well as selling merchandise below actual cost and without a profit just in order to be doing business. Whenever you trade dollars in business you lose money. False ideas of value and of the cost of doing business are established that eventually are ruinous.—C. N. Barrett, feed department manager, Northrup, King & Co., Minneapolis.

Dealers who have not taken the time to make an honest appraisal of their grinding charges recently should brace themselves for a shock. Some charge pre-war prices for grinding although wages, production and operating costs have doubled. Unless operators take the pains to study their cost in the form of labor, electric power, taxes, insurance and overall investment, they can actually lose more money in the custom services they perform for their farmer customers than they can make in overall operations.—John Russell, Russell Grain Co., Hilliards, Ohio.

Good Dealers Know Their Stuff

We (in the feed business) have to know enough about our feed and the farmer's feeding problems to make sure he is not only getting his dollar back for the feed he buys but a profit on top of it. The cheapest feed is seldom the best feed, either from the point of view of the dealer or the customer. The cheapest feed is always the feed which will produce the most results for the dollar spent. It is difficult sometimes, particularly in times like today, to convince the farmer that this is so, but a permanent feed business cannot be built on any other principle. The service given to help the user get the most out of his feed is a large factor in successful feed merchandising.—Sydney Anderson, vice president, General Mills, Inc.

The percentage of so-called retail dealers who do not really try intelligently to sell feed is entirely too high—somewhere between 60% and 70%. The advice of successful dealers is sought by growers of livestock and poultry. Successful dealers have a desire to serve. They know about livestock and poultry. They like animals. They can sense when something is wrong in a flock or a herd. They stress good management practices for the farmer. We rarely get a complaint from an area served by a good dealer. Good dealers are stable; they watch collections. They are enthusiastic.—Hugh Kelley, vice president, Ames (Iowa) Reliable Products Co.

Credit and Collections

On the subject of credits and collections I will not have much to say. I notice that you are all enthused about going on a cash basis. I do not believe in it. This country is saturated with the installment plan idea. You can do lots of business on a credit basis if you will stop a customer when he has reached his credit limit. If that limit is two bags, stop him there; if it is 1,000 bags, stop him at that point.—A. W. Carpenter, sales manager, Larrowe Milling Co., Detroit.

A successful feed dealer is a good collector. He knows that when he lets a bill go uncollected too long, he not only has lost the money, he has lost a customer and he has done the debtor a wrong. This merchant may have a great desire to serve, but he knows he is not serving a feeder if he lets him owe either too much or too long. He can do no man a favor by not collecting from him except in extreme cases where charity is indicated. —Hugh Kelley, vice president, Ames (Iowa) Reliable Products Co.

Don't Stock Too Many Lines

It is a fairly well established fact that most merchants carry too many brands, sizes, styles and kinds of merchandise. Analyses of stocks in relation to sales have generally shown a very high percentage of sales in a comparatively small percentage of the items and sizes. That is why it is wise to eliminate duplicate lines.—Sydney Anderson, vice president, General Mills, Inc.

Gross sales can be increased in direct proportion to the number of times merchandise inventory turnover rate is increased. The merchandise turnover increase will depend on how many lines the dealer carries, his closeness to sources of supply, and how good a job he does on inventory control. Eliminate duplicate lines, eliminate items that do not "go," plan buying to fit more closely with expected sales volume, and watch stocks and push those items not moving as they should.—James H. Burrell, president, James H. Burrell & Sons, Inc., St. Louis.

Orderly Displays

The proper piling and display of stock is essential. It is essential not merely from the point of view of attracting the buyer and assistance in making sales, but it is even more necessary to avoid losses from stock shortages, switches in stock and for purposes of inventory control.—Sydney Anderson, vice president, General Mills, Inc.

Are piles of merchandise and uncoordinated displays turning your store into a maze of confusion? One dealer in such a situation spent $130, reorganized his sales room, erected displays for each related line, installed shelves and displayed open feed bags below the shelves. His sales from supplies increased 300%, selling time was cut in half, walk-in business increased and cleaning time was reduced considerably. — Ringing The Cash Register.

Open That Feed Bag

The store should afford space for the display of the different feeds, in bags, arranged in a neat manner, opened for inspection. Many feed users like to see what they are buying. In conjunction, when there are price cards, there is speedier impetus for sales. Many customers hesitate to inquire regarding prices; therefore, numerous sales are never made that could be developed on the side.—Frank V. Faulhaber, Feedstuffs special writer.

A display without a sign and price card is like a salesman who can't talk. Neither a display nor a salesman can do business for you if they can't talk.—Ringing the Cash Register department, Feedstuffs.

Feed sacks should be opened and a price and description card placed in them. Be sure to allow the customer to see, feel and handle the merchandise.—Carl Luther, head of sales training, Archer-Daniels-Midland Co.

The Feed Mill Production Man—Yesterday and Today

By E. G. Cherbonnier
Grain & Feed Dealers National Assn.

EDITOR'S NOTE: The modern developments in feed manufacturing—more automation, rapid materials handling, improved processing and packaging of more types of feeds—are well known. All of these changes have brought some problems along with the benefits. Some comments on the changes, including remarks in a lighter vein, follow. The remarks are from a talk made by Mr. Cherbonnier at a Midwest Feed Production School.

25th FEEDSTUFFS ANNIVERSARY

v v

Considering "The Mill Production Man—Yesterday and Today," it is interesting to compare the demands of that job a quarter of a century ago, and now.

That happy individual of the early 1920's arrived at his work comfortably in a streetcar or bus, or if he drove his car, he enjoyed a peaceful and uncrowded trip.

Arriving at the mill, he passed a small truck dock where the local dealer for his concern picked up his feed once a week. The truck dock was seldom used for any other purpose, except an occasional delivery of mill supplies.

On his desk there were some carload orders for shipment, but if the Jones Feed Store car couldn't be shipped today, he would try to load it tomorrow, and it wasn't hard to give the sales manager a reasonable excuse for the delay.

He packed his feed in one kind of bag—burlap 100's—with occasionally some paper 25's.

He had never heard of cubes, pellets or crumbles. He made only two or three feeds for each class of animal, in mash form, and that was it.

The smallest percentage of any ingredient in his formulas was 1%.

This happy individual had no problem with floor stocks as most of his output went directly into cars.

He was required to stock a modest number of raw materials for his finished feed, but not many.

As to a union, he had never heard of a shop steward and his men had the old fashioned idea of a day's work for a day's pay. If a man loafed regularly, he was fired.

Salesmen were not welcome in the mill, and if they did bring a customer, one of the sweepers could show them around.

A production man seldom was called into top management conferences, and then he was supposed to be seen and not heard. But it was a happy life, with the ulcers and nervous breakdowns happening only in the sales or financial offices up front.

• • •

The mill production man of today bears no resemblance to his comfortable predecessor.

On the way to work he may lose part of a fender, not to speak of his own temper, and when he arrives at the mill, he finds that those two trucks that crowded him are now sitting at his truck dock. Other angry truck drivers glare at him as he heads for his office, where the loading clerk is waiting with numerous gripes.

Looking at his production needs for the day, he realizes that the lowly chicken has more foods than are on a king's table. Starter, starter-grower, grower (each with three different levels of protein), laying mashes built for free choice, mash and scratch, all-mash and breeder.

The broiler list is equally as large and turkeys, pigs, cows, rabbits, dogs, foxes, mink and chinchilla, must all have their variety of feeds.

But wait! This is only the beginning. These feeds must be available in meal, in pellets (two sizes), and in crumbles—in burlaps, plain cotton, cotton print, paper and bulk.

They must be with or without sulfaquinoxaline, urea, thiamine, hydrochloride or nicotinic acid.

He also finds new formulas worked out by some research guy with a pencil, requiring 28 grams of an antibiotic to a ton. If he mixes in less the feed won't be satisfactory, and if he mixes in more, the Food and Drug Administration will get

CAPEX DEHYDRATED
ALFALFA MEAL
Also All Grades and Grinds Sun-Cured
•
THE A. B. CAPLE CO.
Toledo 5, Ohio

You get more than a storage structure at
SPROUT-WALDRON

You get many *plus* values when you deal with your SPROUT-WALDRON MAN. He has America's most complete line of feed milling equipment. In storage and conveying equipment, as well as other grain processing machinery, he offers such a wide choice of styles and sizes that he can be unbiased in his recommendations. Ask him about the comparative costs of steel, concrete, or other storage structures.

Joel Dickinson

You also get reliable, on-the-spot guidance on where and how to install equipment. Your SPROUT-WALDRON MAN is thoroughly trained to help solve your problems. He's practical, sincere, willing, and anxious to help you increase your profits year after year. And, being one of a team, he has access to the accumulated experience of the entire Sprout-Waldron sales and engineering staff.

Coming to Sprout-Waldron with a successful background of selling mill supplies to the grain processing industry, Joel Dickinson, pictured here, has played a very responsible role in the modernization and building of many outstanding mills in the territory he serves. Typical is the Harvestore installation at right. With such men to help you, you're bound to buy *right* at Sprout-Waldron.

SPROUT-WALDRON BUCKET ELEVATORS

Properly designed head, high operating speed, and other features result in peak capacity and assure positive discharge without back-legging. Units available in many sizes for all purposes.

SW SPROUT-WALDRON

SPROUT-WALDRON SCREW CONVEYORS

You'll find a complete line of the very latest, most improved screw conveyors at Sprout-Waldron – screw conveyors that move feeds horizontally, vertically or on an incline...screw conveyors to move and mix scratch grains...units to provide uniform flow from bins.

SPROUT-WALDRON PNEU-VAC

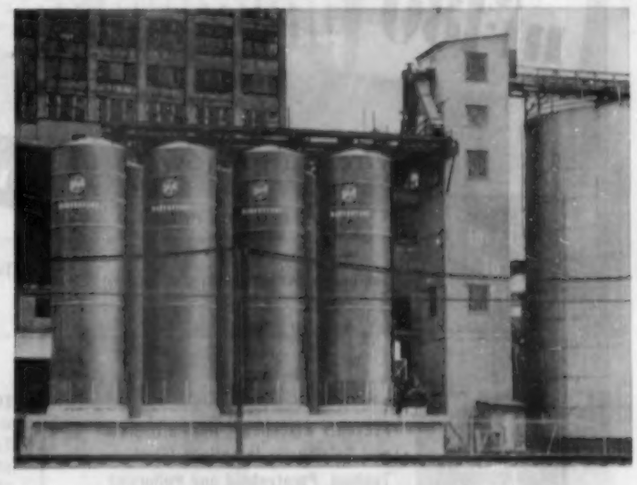
This is the most advanced, negative-pressure or draw-through system. Fan is located on opposite side of collector from material conveying line. Material does not pass through fan. Mechanical friction and exterior dusting are eliminated. The unit is self-cleaning. It cools, heats, aerates, or dries.

SPROUT-WALDRON BULK TRUCK

Here's the answer to the big growing demand for piped-in feeds. The Feed Piper Pneumatic Bulk Truck pipes feeds anywhere...economically. Equipped with optional self-loading feature.

*FEED PIPER, PIPED-IN-FEEDS are trademarks of Sprout-Waldron

solve difficult storage problems this SAFE, EASY way...


Seven-unit Harvestore push-button feed mill processes soybean meal and other ingredients into feed at A. E. Staley Co.

HARVESTORE
GLASS-ON-STEEL
Storage Structure

A. O. SMITH CORP.—*manufacturer*
SPROUT-WALDRON—*exclusive distributor*

HARVESTORE provides safe storage...easy, speedy, mechanized bottom unloading. It is the only glass-surfaced—inside and out—steel storage unit available today. Modern construction eliminates rust, corrosion, and structural maintenance ...makes Harvestore fire, weather, wind, moisture, rodent, and vermin proof. Exclusive optional breather system shuts out air, prevents spoilage from oxidation. Materials that bridge, like bran or gluten feed, can be efficiently stored and easily removed.

Mechanical Bottom Unloading Saves Man-Hours

When desirable, Harvestore can be equipped with patented sweep-arm unloader. This electric-powered unit feeds out materials in the order they were stored...without bridging or packing problems. It works easily into automatic processing lines. Unloader is also available separately for use in your present bulk storage bins.

Ask your SPROUT-WALDRON MAN or write for details.

SPROUT-WALDRON
The Best in Milling Equipment Since 1866
61 LOGAN STREET • MUNCY, PA.

PELLET MILLS · HAMMER, ROLLER, ATTRITION and BURR STONE MILLS · MIXERS · SCREW, BELT and PNEUMATIC CONVEYORS · BUCKET ELEVATORS · CUTTERS, CRUSHERS and FEEDERS · REELS, SEPARATORS and ASPIRATORS

after him for not labeling the feed as a drug.

Just as he is getting ready to line up the day's work, the shop steward comes to complain that the free coffee wasn't hot at yesterday's lunch and that he hurt the feelings of Jake the sweeper yesterday when he had politely requested him not to smoke a cigarette in the mill.

Just as production is getting underway, an insurance man calls to make a safety check. As they start through the mill, he is recalled by a phone call from the vice president in charge of sales. Some special customers are in town and must be shown through the plant by the superintendent himself.

Arriving at work the next day, he finds finished feed stacked all over his mill and in place of the shouting mob of truck drivers of yesterday, he sees one solitary truck driving away with a 25-lb. sack of rabbit feed.

In all fairness, it should be said that some days are not like this—they are worse.

Man-hours per ton, pellet-machine breakdowns, leaks in the fish soluble tank follow each other through the procession of months, with occasionally a strike thrown in or a small explosion to vary the monotony.

What does he get out of it besides ulcers and nervous breakdowns?

* * *

Life is a challenge and the mill production man of today faces the greatest challenge of any phase of management. I think he carries the greatest responsibility and his efforts will have more to do with the success or failure of his company than that of any other executive.

Where can we look for decreased costs and higher quality? Can sales and advertising costs per ton come down greatly? I doubt it. The greatest single cost in a feed operation today is manufacturing, and it is there that we must look for reduced costs and faster service to feeders and dealers.

Of course, research will continue to contribute to a still higher standard of feeding and the success of a feed mill will depend on keeping up with research, but particularly on accuracy of mixing, lower man-hours per ton, and prompt service.

We will need the highest possible efficiency from our sales and advertising people, but they are going to be up against stiffer and stiffer competition and need the very best help from their partner—the mill production man.

The successful feed mill of the future will be the one that shows the finest teamwork between production and distribution.

FEED FIRM ORGANIZED

RUSTON, LA.—Townsend Feed Mills, Inc., 505 W. Mississippi Ave., Ruston, La., has been chartered with capital stock of 250 shares.

(Tear me out and keep me for ready reference)

Here's the new

nf-180 practical feeding program

when and how to use nf-180

Level of nf-180	CONTINUOUS FEEDING	SPOT FEEDING	
	Two pounds per ton (0.011% furazolidone)	Two pounds per ton (0.011% furazolidone)	Three pounds per ton (0.0165% furazolidone) up to six pounds per ton
As a specific disease fighter	Prevents Blackhead, Hexamitiasis and Salmonella infections (Fowl Typhoid, Paratyphoid and Pullorum)	Effective treatment for Fowl Typhoid, Paratyphoid, Pullorum, and Hexamitiasis Used with nf-180 Tablets treats Blackhead	This level is necessary for treating Blackhead when no nf-180 Tablets are used. (Also treats diseases as indicated under two pound level.) Experimentally, high levels of nf-180 show value for eliminating Salmonella infections, such as Pullorum and Fowl Typhoid, from breeder flocks. It should be used with the usual blood tests and all identified reactors removed.
Plus Values	A disease preventative and growth promoter Results indicate that nf-180 will soon be labeled as a preventative for still other diseases not now claimed. nf-180 may keep birds on full feed and reduces the seriousness of secondary infections. Birds fed nf-180 continuously have a keen appetite, grow rapidly, seem able to throw-off many serious infections, and show hasty recovery from serious disease. nf-180 may be fed without harm during or following vaccination.	A conditioner in time of stress nf-180 is an excellent feed medicament to use before and during a known stress period. Its wide-spectrum of action makes it invaluable in combatting many diseases not identified with specific organisms, such as infections caused by secondary invaders. nf-180 is particularly valuable in this regard during a vaccination program. Generally it is recommended that poultrymen have a supply of nf-180 medicated feed handy to use at the first sign of abnormality in the flock. nf-180 may be wisely recommended to keep birds on feed following a disease outbreak and prior to a competent diagnosis.	
Recommended for use in	Chick Starter and Grower Feeds Turkey Starter and Grower Feeds Turkey Finishing Feeds Broiler Feeds Turkey Broiler Feeds	Conditioning Feeds Custom-Mixed in Regular Rations during any Stress Period. Turkey and Chicken Breeder Feeds	

nf-180 offers you complete protection against five specific diseases—plus important additional benefits. So don't wait for an emergency to arise to stock up on nf-180.

There's a convenient shipping point in your own area for immediate delivery of nf-180, nfz or other Dr. Hess Products. Write, phone or wire . . .

Feed Products Division, Dr. Hess & Clark, Inc.
Ashland, Ohio

"These are my grandmother's ashes."

"Oh, so the poor old soul has passed on?"

"No. She's just too lazy to look for an ashtray."

◆ ◆ ◆

A farmer wished to insure his house and barns.

"What facilities have you," asked the insurance man, "for extinguishing a fire in your village?"

The farmer pondered a little. Finally he answered. "Well, sometimes it rains."

◆ ◆ ◆

The customer settled himself and let the barber put the towel around him. Then he told the barber, "Before we start, I know the weather's awful. I don't care who wins the next big fight, and I don't bet on the horse races. I know I'm getting thin on top, but I don't mind. Now get on with it!"

"Well, sir, if you don't mind," said the barber, "I'll be able to concentrate better if you don't talk so much."

◆ ◆ ◆

A 4-year-old greeted his father with the exciting news, "Today I saw a snake and I ran like hell."

His father chided him. "You mean that you ran like 'heck'."

"Oh, no," said the boy. "I ran a lot faster than that."

◆ ◆ ◆

"Two!" shouted the pint-sized umpire.

"Two what?" snarled the big catcher.

"Yeah, two what?" echoed the equally large batter.

"Too close to tell," said the umpire.

◆ ◆ ◆

The golfer had lost his ball and was inclined to be annoyed with his caddie.

"Why didn't you watch where it went?" he asked angrily.

"Well, sir," said the boy, "it don't usually go nowhere, so it took me unprepared like."

◆ ◆ ◆

A lady, somewhat embarrassed by the unexpected gift of a baby alligator, placed it in the bathtub temporarily before rushing out to keep an engagement. When she returned, she found this note from her maid:

"Sorry. Ise quit you-all. I doan want to work in a house where they's a alligator. I'd a-tole you but I didn't think the question would ever come up."

◆ ◆ ◆

"What the scoop on this here universal disarmament, Bill?"

"Why, it's sumpin' like me and my old woman. When there's a bit of a shindy brewin' the one wot proposes peace is the one wot ain't got 'old of the poker."

◆ ◆ ◆

Mrs. Jones: "How did the naughty little boy of yours get hurt?"

Mrs. Smith: "That good little boy of yours hit him on the head with a rock."

COMPLETE FEED ANALYSIS $6

Protein, fat or fiber $2.00 per test
Urea protein separation $2.00
Fertilizers and general analysis
CUMBERLAND TESTING LABORATORY
Box No. 74, Nashville 2, Tenn.

©1955 HONEGGERS' & CO., INC.

HONEGGER Leghorns

HONEGGERS'

BIG H FEEDS

FEED & MILLING DIV., FAIRBURY, ILL. • HATCHERY DIV., FORREST, ILL.

Production Progress

The Human Element Is Still Important, Too

The story of the improvements in feed manufacturing operations is a familiar one.

It is a story of new and modernized plants and new and improved and more efficient equipment of many types. There are things like automation — less direct labor and more automatic operations, push-button weighing and mixing, automatic batching systems, electronic controls; more processing of ingredients and improved grinding and other facilities; faster and better mixing operations; more pelleting and crumblizing; improved premixing to handle the many micro-ingredients; better facilities for handling and mixing liquid ingredients; more bulk handling of ingredients, including the use of pneumatic handling; better dust control; faster and more efficient packaging; more and better bin storage; more efficient handling and warehousing of finished feeds, including the use of fork lift trucks and modern conveying equipment.

Credit for many of these improvements goes to equipment suppliers and to feed milling engineers who have met the need for more complex but more efficient plant operations.

The Human Element

Meanwhile, with all of this attention to improved and more efficient plants and equipment, the human element still cannot be forgotten in looking ahead toward further improvements.

As one industrial leader recently put it, "Man will always be master of the machine. Electronic equipment is not going to make people obsolete."

Erwin C. Wascher, vice president of Honeggers' & Co., Fairbury, Ill., made this same point recently in regard to feed production. He said: "We will always need machine operators, supervisors, skilled mechanics and machinists to watch over the more and more complex machinery and equipment. They will never run completely by themselves, although the more complex the machinery becomes, the more ability it will have to take over all the manual labor.

James H. Burrell

Tests by J. D. Jewell, Inc., on 34,276 broilers prove again that feed properly fortified with

DUPONT METHIONINE

helps produce more meat per ton of feed

Broiler growers will see this advertisement in the May issue of

BROILER GROWING

To evaluate added Methionine in broiler starter rations, J. D. Jewell, Inc., recently conducted studies on four typical Georgia flocks.

In these tests, under the supervision of J. T. Thompson, Jr., Hiram, Ga., Agent for J. D. Jewell, 34,276 broilers were fed to an average market age of 72 days. About half (18,057) had Methionine added to their feed. Increased gains for these birds averaged 36 extra pounds of meat per ton of feed. In every one of the tests, the feed containing added Methionine cut production costs per pound of meat by bettering feed efficiency.

Recent research has confirmed that full potential is not always realized from some "high-efficiency feeds," previously thought to be balanced to the needs of fast-growing birds. Newest data show added Methionine is a necessity for bringing today's best rations into balance, thus permitting even better feed conversions and weight.

Better talk it over with your feed supplier. Find out if your feed contains sufficient Methionine to give you lowest possible cost per pound of meat.

	No. Birds	Mortality %	Av. Wt.	Feed Efficiency
Regular formula	16,219	3.5	2.84	2.77
Regular formula + added Methionine	18,057	3.0	2.92	2.63

This means we have a responsibility to provide people who are better qualified and more skilled in their fields."

More and more feed manufacturers have found and will find it necessary to pay more and more attention to the human element—things like better supervisory personnel, better personnel training and directing, good production planning, establishment of work standards.

Training Programs

James H. Burrell, president of James H. Burrell & Sons, Inc., St. Louis consulting firm, declared recently that the lack of a training program for mill employees is probably one of the most costly mistakes in the feed industry.

Recalling progress that has been made in feed mill operations over the past 25 years and then looking ahead, Mr. Burrell said that the cost of producing a ton of feed is still too high in too many plants. And one reason is that there is not good enough selection of employees at managing levels and personnel selection, training and handling are not good enough.

"Grinders, mixers, scales, packers, rolls, scalpers, sewing machines, recording systems, conveying systems, pellet mills, pellet coolers, molasses application and mixing systems, premixing units, dust collecting systems, fish soluble units, fat units—these and other things are new or have been greatly improved during recent years," Mr. Burrell pointed out.

"Engineering of a modern feed plant has been greatly improved. The most modern, up-to-date electric controlled production systems are now in use. And research is providing more and more knowledge for further advancement in producing better quality products at lower costs.

"Man-hours per ton of finished feed have been greatly reduced by these improvements, thereby enabling the feeder to produce more meat, milk and eggs at lower costs."

However, Mr. Burrell said, because of the great advancements that have been made in plants and equipment, there is a need for still better trained personnel.

It's a "Must"

In former years a man was hired and placed in a plant with little or no training. But today, with complicated machines and systems, a mill employee training program is a "must," Mr. Burrell declared.

He said it is highly important that milling employees know all about machines, the reasons for controls in manufacturing, and the part they play in the production of each ton of feed made each day.

Along with the need for better qualified and trained personnel, there is a problem of the size of the staff. In many instances, Mr. Burrell said, mills are overstaffed, causing excessive costs.

With the great advancement in machines and systems, there is also a great need for preventive maintenance to safeguard the life and performance of the equipment.

Mr. Burrell emphasized that maintenance employees should be trained to realize fully the importance of their work far beyond the repair or moving of a machine. They must realize the importance of the elimination of leaks, waste, down time, cost of machines, working space for others' safety, fires, explosions, cost of operation, etc.

Erwin C. Wascher

Stressing the fact that the cost of producing a ton of feed is still too high in many plants, Mr. Burrell pointed out that the factors affecting the cost of production are almost countless, and too many of the factors are overlooked.

For example, he lists among the factors affecting costs of production these things:

1. Price of raw materials.
2. Quality buying.
3. Discounts.
4. Rail and truck—receiving ingredients.
5. Rail and truck—delivery.
6. Containers—size, kind.
7. Number of products.
8. Type of products.
9. Percentage of capacity used.
10. Fluctuation of orders.
11. Changing dealer orders.
12. Efficiency of plant.
13. Efficiency of management.
14. Efficiency of employees.
15. Power rates—heat, light.
16. Fixed costs.
17. Operating costs.
18. Wastes.
19. Executive or administrative costs.
20. Labor costs.
21. Maintenance cost.
22. Preventive maintenance cost.
23. Insurance — rentals — depreciation — supplies — repairs — other miscellaneous costs.

And that's not all. To the production cost must be added other costs, such as sales, advertising, promotion, office and administrative costs, plus the cost of storage, spoilage, waste, interest, taxes, legal fees, insurance, claims, adjustments and mark-up for profits.

Variation in Costs

The tremendous importance of better understanding of costs was pointed up by the recent U.S. Department of Agriculture study which showed the great variation in costs of operating feed plants.

Much of the variation in unit costs

J. T. Thompson, Jr. (right) and Jack Hastings (left) of J. D. Jewell, Inc., who conducted the recent tests, shown discussing the profitable role of added Methionine in broiler rations with two of their growers, Mr. and Mrs. W. H. Dickinson.

E. I. du Pont de Nemours & Co. (Inc.),
Grasselli Chemicals Department,
Animal Nutrition Section, Wilmington 98, Delaware.
Du Pont Company of Canada Limited,
Box 660, Montreal, Province of Quebec.

METHIONINE

DUPONT
REG. U.S. PAT. OFF.
BETTER THINGS FOR BETTER LIVING
...THROUGH CHEMISTRY

Feed Mixers Products
COLBY
PULVERIZED
Oats or Barley
ROLLED OATS
AND
FEEDING OATMEAL
COLBY MILLING, INC.
COLBY, WISCONSIN

was explained by differences in volume of feed mixed, and the influence of volume was especially important among the small-volume plants. For example, total operating costs per ton of feed mixed were about $10.40 in plants mixing 30,000 tons a year, $12.90 in plants with volumes of 10,000 tons and $20.70 in plants mixing 2,000 tons a year.

Wages and salaries in production ranged from $3.24 per ton in plants mixing more than 45,000 tons of feed a year to $6.67 in plants with volumes of under 5,000 tons.

In considering all of the cost factors and the cost figures, it is emphasized that management and training and handling of personnel are of great importance. That's why authorities like Mr. Burrell, in looking ahead toward future feed manufacturing improvements after the advances of the past 25 years, put so much emphasis on the need for good selection and training of personnel.

The company that does not have a continuous training program in one form or another will pay for it in loss of time, inefficiency, loss of business or loss of customers, Mr. Burrell said.

New Developments

Other new and future developments in feed manufacturing were outlined by Mr. Wascher:

Bulk ingredients—There is a trend toward raw materials in bulk in hopper cars which require only the opening of trap doors to unload the entire contents of a car in a few minutes. However, handling materials in this volume and in this way mean consideration of large capacity equipment and elevating systems.

Liquids—In addition to the use of more molasses and other liquids, there is the increase in use of liquid fats in feeds. This means a need for facilities for receiving and storing of liquid fat, more intricate blending equipment, more meticulous scalping and dressing of the finished feed.

Materials handling—Five years ago fork lift trucks were a rarity in feed plants. Today they are commonplace as an alternative or adjunct to belt conveyors and other types of conveying equipment. Belt conveyors also have found and will find more use in moving finished feeds, but, with the many different formulas and packages, still further use of fork lift trucks for handling packaged goods is anticipated.

Low quality roughages—The use of low quality roughages such as corn cobs in feeding ruminants may have an effect on feed production. While corn cobs, for example, may not be handled in a large number of large producing commercial feed mills because of their bulk and storage and other requirements, production men should watch to see whether corn cobs and other roughage are processed at the feed plant or on the farm.

Nutritionists have pointed out that farmers may demand mixed cattle feeds which include both roughage and supplement so that they can be machanically handled, cutting down on labor. There is a trend toward more use of these roughages, and the feed manufacturing industry will at least supply the supplements and concentrates necessary to use with the roughages.

Automatic proportioning—Already there are a number of systems providing automatic proportioning of feed ingredients, and more are expected to be installed. These are systems in which information is fed into a control panel, and the equipment automatically carries out the process of drawing ingredients, weighing, mixing and discharging.

Still further progress in this field is anticipated. In connection with this, further improvements in accuracy and speed of weighing are anticipated.

All of this automation and speeded operation also will involve a need for expanded use of electronic controls and other equipment which will signal difficulties or regulate material flow, or measuring, or handling, or storage.

The use of more micro-ingredients will call for even further improvements in many plants in pre-mixing and mixing.

The trend toward bulk feed in some areas will call for additional or different facilities.

Bulk Ingredients

Mr. Burrell said that in many plants today about 75 to 85% of all ingredients are purchased in bulk. It is possible that a plant may be designed, he said, so that all ingredients except liquids may go through bulk storage bins, even though some materials may come into the mill in bags. Such a process may require warehouse design with an air conveying system to handle the ingredients to the bulk storage bins.

Among needs of the future, Mr. Burrell said, is the necessity for even further improvement in uniform quality of feed ingredients, with elimination of variations. Further advances, he said, are needed in the processing of materials going into feeds, eliminating possibility of nutritional losses in the original materials.

Storage of raw materials, he continued, needs improvement so as to preserve the nutrients in the raw materials as well as the finished feeds.

Large and medium sized plants are being improved constantly, Mr. Burrell pointed out, and the small local mixing plants are also making improvements.

But, along with this, there is the important job of providing personnel with better qualifications and better training.

Real training programs in the old "shovel-mix" type plants were lacking. Today, many companies have good training programs. But much more is needed to take complete advantage of the automatic and improved facilities and operations which are now and will be possible.

The modern precision feeds, with their micro-ingredients and added complexity, call for precision proportioning and manufacturing. And they also will call for well trained, exacting personnel to handle the equipment.

Just as feeds can't perform efficiently if feeding and management practices and breeding aren't good, the modern and efficient feed mill equipment won't operate up to the potential if it isn't managed and operated properly.

Feeds are better with whey—better with

KRACO FRESH-DRIED WHOLE WHEY

Guaranteed at least 65% lactose (Runs are usually 70-72%)

Add whey to your feeds to produce fast, economical weight gains in poultry, swine and calves. KRACO is fresh-dried whole whey. This pure milk by-product supplies these animals with whey factor—an important nutritional element producing such good results that many farmers insist on whey in their feeds.

KRACO is fresh! Dried immediately after it's drained from glistening cheese vats in Kraft's modern processing plants. No chance for KRACO to get *stale* or *high-acid*. Fresh-dried KRACO is the world's most famous *low-acid* whey. *Quality guaranteed by Kraft.*

KRACO is all whey! Nothing added, nothing taken away. Pure KRACO contains all the whey nutrients: lactose (guaranteed minimum 65%), milk protein (12%, mostly lactalbumen), milk minerals, and vitamins.

A Kraft Product

Order from **PHENIX FOODS COMPANY** (Distributor)

Division of Kraft Foods Company
460 East Illinois Street
Chicago 90, Illinois

"SNOW-FLAKE"
OYSTER SHELL

Kolon Trading Co., Inc.
BROKERS
• FISH MEAL — BONE MEAL
• UREA
15 Park Row, New York 38, N. Y.
PHONE: BEekman 3-8818 TWX NY 1-2863

Mike Master says:

CONGRATULATIONS TO FEEDSTUFFS on their 25th Anniversary

Yes, MASTER MIX dealers and McMillen Feed Mills are happy to congratulate FEEDSTUFFS on their 25th anniversary. Through their informative editorials and services, FEEDSTUFFS have added immeasurably to the outstanding growth of the feed industry. They richly deserve the good wishes expressed at this time for a "job well done."

Here's progress too!... The new MASTER MIX FEED MILL at CHATTANOOGA, TENN.

New grain storage bins and river-loading dock at Chattanooga.

New Mill and Soybean Processing Plant at Chattanooga.

MASTER MIX FEEDS

McMillen Feed Mills
FORT WAYNE, INDIANA

JUST didn't know we were that old . . .

GOSH—anyway, congratulations to Feedstuffs on its 25th Anniversary, and best wishes to Harvey Yantis for 25 more years of excellent service.

NOW, that reminds us of our anniversary . . . June 16, 1930, we started as a feed broker, beginning 25 years of the best service we know how to give.

JOSEPH G. NELLIS, *President*
NELLIS FEED CO.
255 Board of Trade Bldg.
Chicago 4, Ill.

Don't Forget the Stale Bread, Ma

Excerpts from a college bulletin on feeding turkey poults, published in the first issue of Feedstuffs, May 18, 1929: "When 36 to 48 hours old, give the poults sweet skim milk, short grass on the sod, or young tender greens such as leaf or head lettuce. When 48 to 60 hours old, feed eggs boiled for 30 minutes, crushed and mixed with an equal quantity of dry, stale bread. . . . On the third day feed as on the second, and on the fourth give in addition a mash composed of finely ground corn meal, pure wheat bran, oat flour, wheat middlings and beef scraps in equal amounts by weight. Add 1 lb. of table salt and 2 lb. of powdered charcoal to each 100 lb. of mash and mix thoroughly. . . . Continue this method of feeding until the seventh day, when it is advisable to give a little steel cut oatmeal, well seasoned corn, or wheat cracked to the size of steel cut oatmeal by weight, for night feed. At this age poults will eat only a little grain.

"From the eighth to the 20th days, continue feeding mash and greens as on the seventh day, but increase the amount of scratch grains in relatively small quantities in the morning and at noon and a little more at night. On the 21st day, substitute a mixture of coarser cracked corn and whole wheat in the proportion of two parts of corn to one of wheat for the night feed and use the smaller scratch feed instead for morning and noon feeds. Continue this feeding until the poults go on range at six to eight weeks. For rearing ground rations, a mash composed of equal parts of corn meal, ground oats, wheat middlings, pure wheat bran and beef scraps in hoppers, and also a scratch mixture of two parts of corn and one of wheat in hoppers, may be fed. Give sour or sweet skim milk as a beverage, and keep oyster shells and hen's grit constantly before the birds."

Exhibit Space All Filled For Hatchery Trade Fair

KANSAS CITY—All of the originally platted 85,000 sq. ft. of exhibit floor area has been reserved by 152 firms for the 1955 "Hatchery Industry Trade Fair" to be held in St. Louis July 19-22, and several firms are still on the waiting list for space.

This was announced this week by Ed G. Gray, convention manager for the American Poultry & Hatchery Federation, sponsors of the Trade Fair. Mr. Gray said every effort would be made to find additional space for those who had not yet been accommodated. The air-conditioned Kiel Auditorium will house the meeting.

It was also announced that the federation has contracted with Les Giblin, nationally known sales consultant, to produce a three-hour sales and promotion clinic as a part of the convention's educational program. Persons attending the clinic will be asked to enroll in advance, paying a $3 enrollment fee.

Between 4,000 and 5,000 persons are expected to attend the four-day convention. St. Louis hotels have blocked out 3,000 hotel rooms, of which 2,000 are air-conditioned. Requests for hotel accommodations should be addressed to Hotels Reservations Bureau, APHF, Room 406, 911 Locust, St. Louis, Mo.

OPENS FEED BUSINESS

GRUNDY CENTER, IOWA—Wink Harrison has opened a feed grinding service here and has purchased a portable mill.

Now! Tastelation
FLAVORS

For top quality in palatability, your formula feeds, as well as mineral, medicated or specialty feeds depend on the right flavor.

Uniformity in a flavor-aroma product is essential for consistent results in a finished feed. Controlled production of Tastelation Feed Flavors makes them outstanding in uniformity and flavor-aroma intensity.

- ALL PURPOSE FLAVOR
- ANISE COMPOUND FLAVOR, Liquid
- POWDERED ANISE COMPOUND FLAVOR
- MOLASSES BOOSTER FLAVOR, Powdered and Liquid
- PIG FEED FLAVOR
- POULTRY OR TURKEY FEED FLAVOR
- DOG FOOD FLAVOR
- FENUGREEK COMPOUND FLAVOR
- LICORICE COMPOUND FLAVOR
- SPECIAL FORMULA FLAVORS

We specialize in formula development work in the feed industry dealing with flavor-aroma problems. Our methods of applied "buffering" action with new Tastelation products on formula feeds are new approaches to improved palatability. You are invited to take advantage of the personalized service and experience of Technical Director Paul Q. Card and his staff.

WRITE OR PHONE FOR PRICE LIST AND SAMPLES

Taste Engineering, Inc.
PAUL Q. CARD, TECHNICAL DIRECTOR

Monroe 6-5255
1401 West Hubbard Street Chicago 22, Illinois

Mixers . . . Processors . . .
Warehouse Men

The Chicago Board of Trade futures market provides a suitable hedging medium against the price risk in . . .

Requirements . . . Bookings . . . Inventories

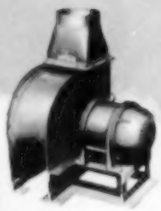
We offer fast reliable access to the market.

HORNBLOWER & WEEKS
*134 So. La Salle St., Chicago 3, Ill. } FR 2-7500
*28 So. Michigan Ave., Chicago 3, Ill. }
*Open Mondays until 9 PM and Saturdays until 1 PM
Jefferson Building . . . . . Peoria . . . . . PEoria 4-5174
Rockford Trust Building . . . Rockford . . . ROckford 2-6631
Members Principal Stock and Commodity Exchanges
BOSTON NEW YORK CHICAGO DETROIT CLEVELAND
PHILADELPHIA PROVIDENCE PORTLAND BANGOR
PEORIA ROCKFORD CHARLOTTE DALLAS MEMPHIS
H&W EST. 1888

MODERNIZE YOUR MILL WITH KELLY DUPLEX

DEPENDABLE MILL EQUIPMENT

for top service and economy . . . increased profits!



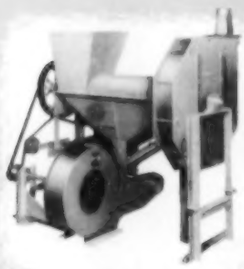
Grain Blower & Exhaust Fan

Vertical Screw Elevator

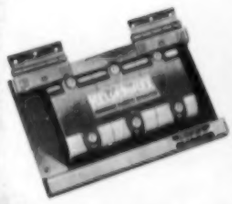
Cob Crusher for making Poultry Litter

Corn Cutter and Grader with Aspirator

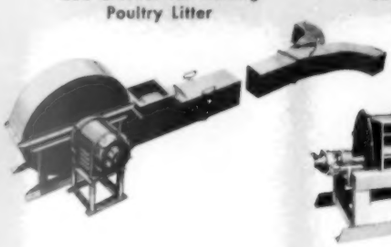
Vertical Feed Mixer ½ to 5 tons and larger



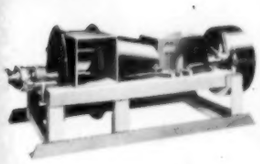
Corn Sheller with blowers for grain and cobs



Magnetic Separator protects mill machinery



Forced Air Carloader with motor or belt drive

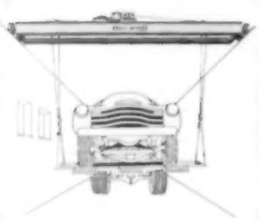


Regular and Pitless Corn Shellers

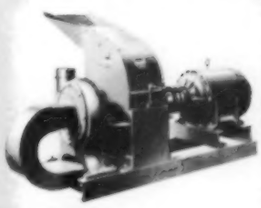
Twin Molasses Mixer

Corn Scalper with or without air cleaner

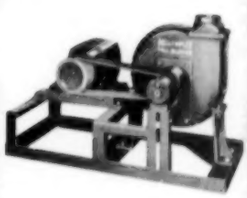
Chain Drag in double and single geared types



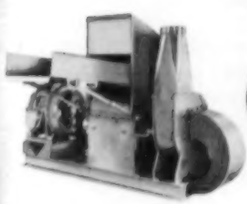
Electric Truck Hoist cuts handling costs



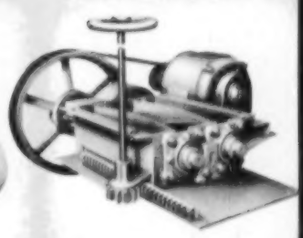
Model "M" Hammermill with direct connected motor



Attrition Mill Blowers for any size plant

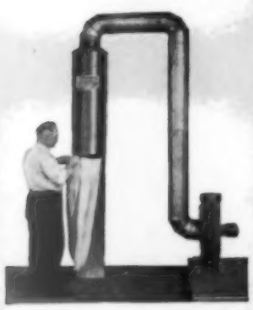


Model "S" Wide Throat Hammermill



Corn Crusher and Feed Regulator

Grain Feeder



Electric Bag Cleaner

every **KELLY DUPLEX** machine is fully **GUARANTEED**

We will gladly ship you any Kelly Duplex machine on approval. If it is not completely satisfactory, you are free to return it within 30 days after arrival at destination, by prepaid freight, for refund of full purchase price. In addition, each Kelly Duplex is guaranteed against defects in material and workmanship for 90 days.

The Duplex Mill & Manufacturing Company Springfield, Ohio

Yes, I'm interested in the KELLY DUPLEX machinery checked at the right. Please send me full information on these machines without any obligation.

NAME_____

FIRM_____

CITY_____ STATE_____

Mail this Card– No Obligation

KELLY DUPLEX

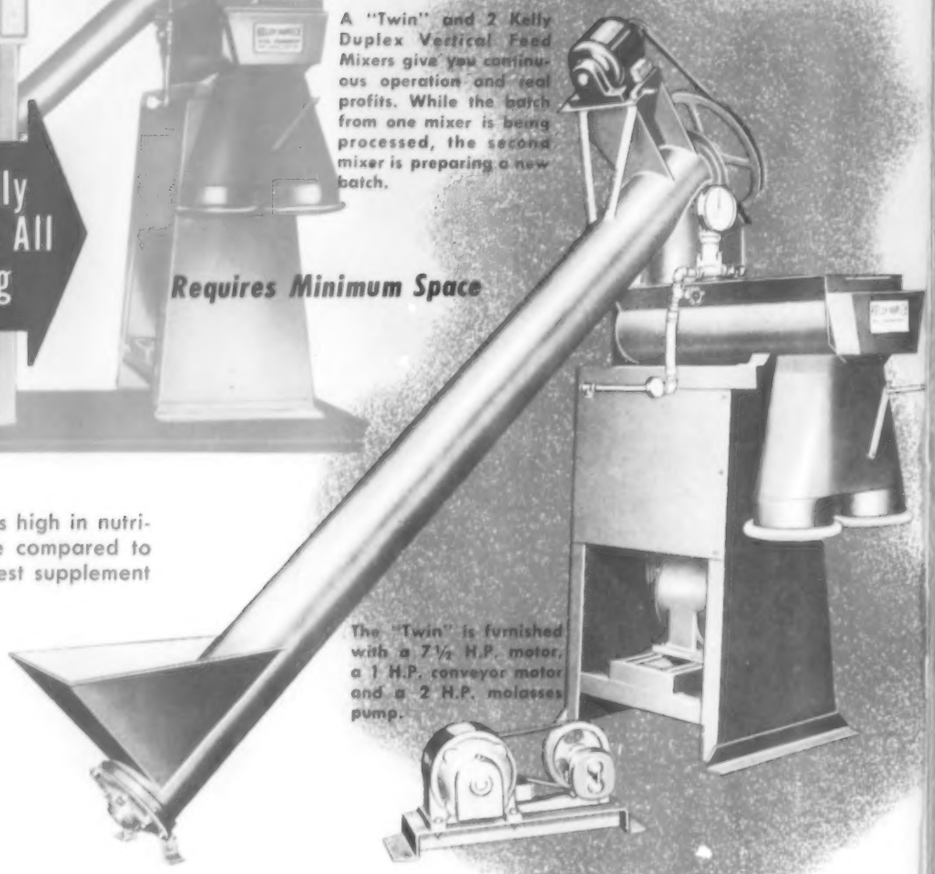
Check Here!

- ☐ Twin Molasses Mixer
- ☐ Vertical Feed Mixer
- ☐ Model "S" Hammermill
- ☐ Model "M" Hammermill
- ☐ Vertical Screw Elevator
- ☐ Cob Crusher
- ☐ Corn Cutter and Grader
- ☐ Electric Truck Hoist
- ☐ Corn Sheller with Blowers
- ☐ Regular Corn Sheller
- ☐ Pitless Corn Sheller
- ☐ Magnetic Separator
- ☐ Forced Air Carloader
- ☐ Corn Scalper
- ☐ Chain Drag
- ☐ Attrition Mill Blower
- ☐ Corn Crusher-Regulator
- ☐ Grain Feeder
- ☐ Grain Blower
- ☐ Electric Bag Cleaner
- ☐ Complete Line Catalog

KELLY DUPLEX Twin Molasses Mixer

A "Twin" and 2 Kelly Duplex Vertical Feed Mixers give you continuous operation and real profits. While the batch from one mixer is being processed, the second mixer is preparing a new batch.

Requires Minimum Space



The "Twin" is furnished with a 7½ H.P. motor, a 1 H.P. conveyor motor and a 2 H.P. molasses pump.

Interest in molasses is at an all-time peak. Always high in nutritional value and palatability, it's now low in price compared to corn . . . and is being used liberally in all the latest supplement formulas.

What does all of this mean? Simply that there's big volume and big profits ahead for you in both private brand and custom mixed sweet feeds — especially when you use the Kelly Duplex "Twin" Molasses Mixer. With its twin paddle rotor, this machine adds molasses in just the right proportion — assures fast, thorough, even mixing without balling or lumping — and practically eliminates all cleaning. Carefully designed and sturdily constructed for unsurpassed operating efficiency, economy and life, the "Twin" requires only a minimum amount of space — and can be adapted to any plant setup. Investigate its profit-making possibilities now!

The "Twin" is furnished with a 7½ H.P. motor, a 1 H.P. conveyor motor and a 2 H.P. molasses pump.

Check and mail card today for full information on this profit-making combination!

THE DUPLEX MILL & MANUFACTURING CO., SPRINGFIELD, OHIO

KELLY-DUPLEX

Vertical Feed Mixer

Lets you load, mix and sack a complete batch in less than 15 minutes. Mixes evenly and thoroughly . . . uses less power . . . is practically noiseless. Built to give you steady, dependable performance . . . less maintenance . . . longer life. Six sizes—½ to 5 ton capacity.

FIRST CLASS
PERMIT NO. 72
(Sec. 34.9 P.L.&R.)
SPRINGFIELD, OHIO

VIA AIR MAIL

BUSINESS REPLY CARD
NO POSTAGE STAMP NECESSARY IF MAILED IN THE UNITED STATES

7c—POSTAGE WILL BE PAID BY

THE DUPLEX MILL & MFG. CO.

SPRINGFIELD, OHIO

Broiler Comparison Shows Advances In Nutrition and Feeding Results

In 1951, Dr. H. Ernest Bechtel, director of research for the feed division of General Mills, Inc., conducted an experiment comparing 1934 and 1951 broiler feeds. The comparison showed the marked improvement in results with the 1951 feed.

Now, Dr. Bechtel has brought the 1934 vs. 1951 comparison up to date in terms of present feed prices. In addition, he has prepared comparative 1955 data based on what can be expected from a broiler feed program today if used in conjunction with good management and birds that have the inherited ability to grow and use their feed well.

First of all, here is a run-down of the ingredient listing for each of the feeds, which helps show the differences in feed formulation:

Ingredients	1934	1951	1955
Corn	X	X	X
Bran	X	X	—
Midds.	X	X	X
Oats	X	X	—
Corn gluten meal	—	X	X
Soybean oil meal	—	X	X
Alfalfa meal	X	X	—
Alfalfa leaf meal	—	—	X
Meat scraps	X	X	—
Fish meal	—	X	X
Dried buttermilk	X	—	—
Dried whey	—	X	X
Antibiotic	—	X	X
Riboflavin	—	X	X
Vitamin A	X	X	X
Vitamin D	X	X	X
Ground limestone	X	X	X
Phosphorus	—	X	X
Salt	X	X	X
Manganese	—	X	X
Coccidiostat	—	X	X
B-vitamin supplement	—	—	X
Arsonic acid	—	—	X
DPPD	—	—	X

A comparison of the lists of ingredients for the three different years is an interesting illustration of the advances in nutrition knowledge and the changes in feeds.

Of course, the 1934 feed was far simpler, and there are a number of things not even known at that time which are in common use today, Dr. Bechtel points out.

Also, even though the span of years is much less from 1951 to 1955, it also is evident that certain changes have been made. For instance, Dr. Bechtel notes, there is the use of the antioxidant DPPD, which stems primarily from the four-year project sponsored by a number of members of the feed industry at the Connecticut Experiment Station.

The accompanying table provides a summary of the performance of the three broiler feeds. (The various feed costs were based on typical March, 1955, prices at Minneapolis.)

The data for 1934 and 1951 are taken directly from a comparison of these feeds in the broiler project conducted at the Larro Research Farm in 1951. "Actually, in that particular project," Dr. Bechtel notes, "we did give the 1934 feed one advantage in that we included a coccidiostat. Obviously, coccidiostats were not in use in 1934, so, strictly speaking, we should perhaps not have used it in the 1951 project. On the other hand, we felt it would be exaggerating progress over the years needlessly to run the risk of a bad outbreak of coccidiosis in 1934 feed, especially when we were routinely using a preventive agent in the 1951 feed."

To bring the comparison up to date for purposes of comparison in this anniversary issue of Feedstuffs, Dr. Bechtel tabulated data for 1955 in terms of what can be expected on an average from the 1955 feed. (In other words, an average body weight of 3.1 lb. for straight-run chicks of average broiler quality at 10 weeks of age, with an average feed efficiency of 2.48 lb. of feed per pound of body weight at 10 weeks market time.)

Dr. H. Ernest Bechtel

Summary of Performance of Broiler Feeds

	1934	1951	1955
10 wk. live body wt./bird (both sexes), lb.	2.00	3.10	3.10
Feed efficiency at 10 wks., lb.	3.45	2.71	2.48
Av. feed price per ton (farm basis)	$ 99.03	$101.42	$102.96
Mkt. value/1,000 broilers @ 25¢	$500.00	$775.00	$775.00
Feed per 1,000 broilers, weight, in tons	3.45	4.20	3.84
Feed per 1,000 broilers, cost	$341.65	$426.01	$395.78
Income over feed cost, per 1,000 birds	$158.35	$348.89	$379.22
Income over feed cost, per ton of feed	$ 45.90	$ 83.06	$ 98.65

The comparison shows that income over feed cost per 1,000 broilers on the 1955 feed is almost 2½ times as large as the corresponding figure for the 1934 feed.

Price Changes

"It is interesting, among other things, to notice that the price of the feeds has been creeping upward," Dr. Bechtel said. "However, one would almost expect that the price should have increased much more than it actually did, with all of the newer things that go into our more modern broiler feeds.

"I think the fact that the price has not increased so much with these various feed additives is a tribute to our various suppliers—such as the chemical companies, which have done a remarkable job of producing these feed additives in quantity and at apparently reasonable prices.

"Of course, another reason why the price of the feed has not gone up a

(Continued on page 82)

"If the Skies Fall, One May Hope to Catch Larks"

But when you order Multiwalls from the completely integrated Albemarle operation you do not have to depend upon *miracles* for superbly printed, superbly made sacks in *any* quantity you desire.

FOR Multiwall CALL Albemarle

ALBEMARLE PAPER MANUFACTURING COMPANY • RICHMOND, VIRGINIA

EASTERN SALES OFFICE: NEW YORK CITY • SOUTHERN SALES OFFICE: BALTIMORE, MD. • MIDWEST SALES OFFICE: CHICAGO, ILLINOIS

The Use of Antibiotics in Feeds

25th FEEDSTUFFS ANNIVERSARY

Development, Use Of Antibiotics In Poultry Feeds

By Dr. James McGinnis
Washington State College

In tracing the development and use of antibiotics in manufactured feeds, it seems that we should give recognition to the first paper showing a growth response to antibiotics, although the authors did not recognize the significance of the findings at the time.

In 1946, Moore, Luckey, Elvehjem and Hart at the University of Wisconsin published a paper in the Journal of Biological Chemistry showing that a streptomycin supplement added to a chick diet gave a marked increase in growth. It later was explained that the authors were fully aware of the growth increase at the time, but because of the tremendous cost of streptomycin in 1946, they did not give the possible use of this in poultry feeds a further thought at that time.

Additional Results

After this initial finding, it was not until the spring of 1949 that additional results which later proved to be due to antibiotic activity were presented. This work came about as a result of studies on the development of vitamin B_{12} supplements. In 1948, the isolation of vitamin B_{12} was announced by the Merck group. After that time, there was considerable activity along the line of developing vitamin B_{12} supplements for feed use.

EDITOR'S NOTE: One of the most dramatic nutritional discoveries of the past 25 years was the finding that antibiotics stimulated growth very significantly in poultry and swine. In the two accompanying articles, two well known nutritionists review the development and use of antibiotics in poultry and swine feeds. Dr. McGinnis reviews the discovery of the effect of antibiotics and describes their use and values in various types of poultry feeds. Dr. Catron presents a summary of fairly well established facts and possibilities not yet definitely proved in the feeding of antibiotics to swine.

It was soon observed that the microorganisms used in the manufacture of certain antibiotics, particularly streptomycin, also synthesized significant amounts of vitamin B_{12} during the streptomycin fermentation. By-products of other antibiotic fermentation such as aureomycin and terramycin were soon investigated for B_{12} activity.

It was in connection with these investigations that observations were made showing that growth responses in chicks and turkeys were being obtained that could not be accounted for in terms of vitamin B_{12}. During the summer of 1949, we used

(Continued on page 74)

A 1955 Appraisal Of Antibiotic Feeding to Swine

By Dr. Damon Catron
Iowa State College

The discovery and use of antibiotics in swine rations mark a great advancement in swine nutrition.

Although the results of research on antibiotic feeding have been inconsistent in certain aspects, a general appraisal of these results divides into (1) fairly well established facts and (2) possibilities not definitely proved.

The following summary is based on 56 growing-fattening experiments involving over 3,100 head of pigs and nine gestation-lactation experiments involving 311 sows at the Iowa Agricultural Experiment Station as well as on the results reported by other experiment stations and laboratories. These results of feeding antibiotic of choice to swine seem fairly well established:

1. Antibiotics are not nutrients—they are classified as drugs.

2. Antibiotics of choice for improving growth in swine are chlortetracycline (Aureomycin), oxytetracycline (Terramycin), and procaine penicillin. Bacitracin in combination with penicillin has also increased growth rate.

3. The optimum, practical feeding level of these antibiotics is approximately 5 milligrams per pound of total ration. Therapeutic levels commonly used in treating diseases are 30 to 100 times recommended feeding levels.

4. They are effective in either dry-lot or pasture feeding; however, greater growth increments are usually obtained under drylot feeding conditions.

5. Antibiotics of choice increase growth rate 5 to 16% (average 11%) from weaning to 200 lb. under average feedlot conditions.

6. They produce a maximum growth response when fed to young pigs—less increase in gains in pigs from 100 to 200 lb.

7. When antibiotic feeding is discontinued after pigs reach 75 to 125 lb., cessation of accelerated growth rate occurs and the growth rate tends to follow that of the control animals. However, the pigs previously fed antibiotics maintain their early growth advantage for some time.

8. Increased appetite is indicated by 10 to 20% greater daily feed consumption when an antibiotic is fed. Inasmuch as water consumption is positively related to feed consumption, antibiotic-fed pigs usually drink more water.

Feed Efficiency

9. Improvement in feed efficiency from antibiotic feeding varies from 0 to 12%; however, on an average it saves about 6% of the feed required (20 lb. per 100 lb. gain) by growing-finishing pigs under average feedlot conditions.

10. Antibiotic feeding reduces the number of runts and makes pigs within litters grow about four times more uniform in size. Slow-growing, runt pigs show a dramatic response to antibiotic feeding—19 to 73% (average 45%) faster gains on from 2 to 16% (average 8%) less feed than similar pigs fed balanced rations with no antibiotics.

11. One of the most important values of antibiotics in swine rations is their ability to control a high percentage of the non-specific enteritis in swine. This has been observed in both experimental and practical

CONSTANT QUALITY FOR CONSTANT CUSTOMERS

AGED IN THE WATERS OF MOBILE BAY

UNIFORM QUALITY EVERY TIME---

CLEAN! DUST FREE! ODORLESS! SOFT and DIGESTIBLE! - - - for these reasons more and more poultrymen prefer the calcium food with the Eggshell Brand label. You can guarantee it with confidence, and we'll back you up.

OVER 27 YEARS OF SERVICE

SOUTHERN OYSTER SHELL MILLING CORPORATION
Mobile, Alabama

A complete line of

TRACE MINERALS
for feed concentrates

COBALT CARBONATE	IRON OXIDE
COBALT SULFATE	IRON SULFATE
COBALT SULFATE MONOHYDRATE	MAGNESIUM SULFATE
COPPER CARBONATE	MANGANESE CARBONATE
COPPER HYDRATE	MANGANESE SULFATE
COPPER SULFATE	ZINC CARBONATE
	ZINC SULFATE

Uniformity and *good quality* are characteristics of all Harshaw Trace Mineral Compounds. These dependable necessities enable you to maintain the correct percentages of essential elements in your concentrates and furnish a complete mineral supplement to the feed industry. Let Harshaw supply your requirements from convenient stock locations.

SEND FOR YOUR COPY OF
"Functions and Requirements of Cobalt Livestock Rations"

THE HARSHAW CHEMICAL CO.
1945 East 97th Street, Cleveland 6, Ohio
CHICAGO CINCINNATI CLEVELAND DETROIT HOUSTON
LOS ANGELES NEW YORK PHILADELPHIA PITTSBURGH

the new name in alfalfa

SPECULES®

THE *SPECIFICATION* ALFALFA

The age of specification milling is here.

More and more nutritionists require and demand feed ingredients of exacting physical and chemical specifications. Specules were created to meet this exacting demand.

Specules is an alfalfa product with specific physical and nutritional characteristics meeting the highest uniformity standards . . . a true **specification product.**

Behind this new concept of **controlled specification alfalfa** are men of long experience and leadership in the alfalfa and formula feed industries. Men who aspire to the industry's confidence as the primary supplier of dependable **controlled specification** alfalfa.

So specify Specules, the new name in alfalfa. Available in meal, granules or pellets; in bulk, burlap or paper; with or without oil added.

Look to Agri-Tech for the **specification alfalfa** . . . new Specules.

SPECULES — **Free Flowing, Dehydrated Alfalfa Granules blended to controlled specifications.**

LEAF SPECULES — **Premium leaf Granules containing the superior properties of true leaf meal.**

SPEC-MEAL — **Pure dehydrated Alfalfa Meal blended to controlled specifications.**

SPEC-LETS — **Dehydrated Alfalfa Pellets produced to the same controlled specifications.**

Meet the TECH TWINS

Because of the changes in formula feed
We know that our services you will need.
Keeping up to date is a horrible task.
For our technical aids, you need only ask.

Agricultural chemistry and miracle drugs
Improperly used have many bugs.
Unless you're a genius from some institute
Buy only our products of national repute.

Aurofac, Fortafeed and Megasul too,
Enheptin and Niacin to mention a few.
Alfalfa's a good one and part of our line.
Just put us to work and watch profits climb.

In addition to products we offer this too:
A formulation service to benefit you,
So before your problems get up to your neck
Call *Mr. Agri* and *Mr. Tech!!*

Distributed Exclusively by

Agri-Tech, inc.

BOARD OF TRADE BUILDING • KANSAS CITY, MISSOURI

Technical Agricultural Products With Controlled Specifications

Copyright 1955, Agri-Tech, Inc. K. C., Mo.

farm conditions. This has been confirmed by challenge experiments.

12. The higher the disease level on a farm the greater the response of pigs to antibiotic feeding—and the higher the level of antibiotic required. Apparently healthy pigs, pigs reared on wire floors, and pigs raised in disease-free units when fed adequate rations have failed to respond to antibiotic feeding in well-controlled experiments. This has been confirmed by poultry research and by disease-free animal research.

13. Antibiotic of choice feeding alleviates the partial deficiency of certain nutrients in an otherwise well-balanced ration. Antibiotic feeding spares certain water-soluble vitamins, ex. vitamin B_{12}, riboflavin, pantothenic acid and niacin. Apparently the composition of the ration and degree of deficiency of the nutrient in question affect the degree of sparing action that can be exhibited by any antibiotic "of choice." Antibiotics show a definite specificity for "sparing" certain vitamins which are present in quantities thought to be suboptimal for maximum growth. The feeding of adequate levels of antibiotics of choice to swine also mediates more efficient protein utilization.

14. Antibiotic feeding does not interfere with the conception rate or reproduction in sows.

15. Sows fed chlortetracycline (Aureomycin) transfer it into their milk, detectible by present assay methods if fed at 20 milligrams, or higher, per pound of ration. About four times the normal feeding level must be fed to sows if it is to be transferred into the milk for the nursing pigs.

16. Antibiotics do not replace the necessity of practicing careful swine sanitation. However, they do make possible the successful, profitable production of pigs under high disease level conditions where such was not possible before.

Indicated by Research

The following have not been definitely proved, but research to date indicates:

1. There is insufficient research evidence as to the value of antibiotic feeding to sows during gestation and/or lactation. However, there is enough evidence to indicate that antibiotic feeding does not interfere with gestation and lactation performance.

2. There is insufficient research evidence as to whether or not combinations of antibiotics are more effective than a single antibiotic "of choice" when fed at equal levels to swine. However, Bacitracin seems to be ineffective when fed alone; yet when it is combined with penicillin, a significant growth increase has been obtained.

3. Although two groups of investigators have reported that antibiotic feeding increases the depth of back fat and in general lowers carcass quality, results of extensive research at the Iowa, Wisconsin, Ohio and other experiment stations have shown that antibiotic feeding does not interfere with carcass quality when fed in properly balanced rations.

4. Antibiotics do not appear to lose their effectiveness when fed continuously. However, as animals reach maturity, the non-antibiotic-fed groups tend to catch up with the antibiotic-fed animals.

5. Chlortetracycline (Aureomycin), oxytetracycline (Terramycin), and procaine penicillin seem to be fairly stable in dry mixed feeds when stored under good conditions for a practical length of time.

6. Bacteriological studies of feces and intestinal tract contents indicate that the feeding of an antibiotic of choice modifies the intestinal flora, inhibiting certain classes of microorganisms and stimulating other types. Contrary to early opinion, antibiotic feeding actually increases the total count following an initial transitory decrease in total numbers of organisms.

7. Although the multiple mode of action of antibiotics is not yet entirely known, evidence to date indicates that their activity is largely confined to modifying the intestinal flora, thereby (1) permitting the synthesis of and/or sparing critical nutrients needed by the host (nutritional effect), and/or (2) inhibiting pathogenic, semi-pathogenic and/or toxin forming microorganisms injurious to the host (disease control effect).

Our present status of knowledge on the use of antibiotics in animal nutrition still leaves several gaps which demand considerable research. Yet, without question, they have established their place in the hog feed lots.

JAMES McGINNIS

(Continued from page 72)

some waste products from the Aureomycin production and found that when this material was added to the turkey starter which already contained adequate B_{12}, we obtained approximately a 50% increase in growth of turkey poults at four weeks.

Similar studies were carried on with chicks, and it was shown that the growth which such materials gave could not be explained on the basis of vitamin B_{12} content. These results were presented at the American Chemical Society meeting in September, 1949. At this meeting, we showed significant growth responses with fermentation residues from Streptomycin production and from Aureomycin production. Some of the materials which gave marked increases in growth had no vitamin B_{12} activity.

At that time, it was thought that we were dealing with possibly a new vitamin. However, in trying to explain the results, we pointed out that it appeared that we were obtaining a material which had before that time, not been included in practical feeds, since we had never been able to make improvements comparable to what the fermentation residues were giving.

As a follow-up to this line of work, the investigations were extended to cover other fermentation residues in many parts of the country. It is interesting in considering the progress made in vitamin B_{12} supplements that many of these materials that were

B/M CO.
Bill Merrithew Co.
KNOWN FOR RELIABLE SERVICE
PHONE: WEST 9-4649 TELETYPE: MP 426
MINNEAPOLIS 16, MINNESOTA

New Snap-Open® Sack
OPENS EASIER, FASTER

SNAP-OPEN SACKS . . . so easy to open that a 10 year-old girl actually outspeeds an experienced hand working with a conventional bag!

Boost Your Sales With The Bag That Offers Customers Double Economy

Economy number one: Here's a bag that opens so easily even a 10-year-old girl can open it, and this ease of handling means *faster* handling for your customers with more units per day per man!

Economy number two: Reduced product spilling means real savings for your customers when *you* use the new Snap-Open Sack, the bag your customers will begin to demand after your very first shipment.

Yes, *you* offer multiple advantages to your customers when you bag your product in the Snap-Open . . . advantages that will result in increased sales and customer satisfaction.

Hudson actually went out into the field and asked your customers what they wanted in a multiwall bag. Their answer: a multiwall that would open easily, quickly. The result: the Snap-Open Sack—the bag that opens in an instant, gives you pour-control from a thimble-ful to a hundred pounds, by simply opening the bag a few inches or all the way!

Be among the first in your industry to cash in on this newest multiwall bag which Hudson is pre-selling to customers in farm magazines such as Capper's Farmer and Progressive Farmer, as well as other national consumer publications.

placed on the market in 1949 did not contain what later proved to be antibiotic activity. It did not seem reasonable that microorganisms as closely related as many of the ones used in producing antibiotics would in one case produce none of this new growth factor while in other cases an apparent abundance of it was being made.

It was in this connection that studies were undertaken to explain the difference in activity of the vitamin B_{12} or animal protein factor supplements as they were called at that time. We obtained a large number of fractions from various types of antibiotics fermentations and tested their activity during the latter part of 1949. It was soon found that fractions from the production of Aureomycin, Terramycin and Streptomycin were equally effective in promoting growth of chicks and turkeys. These findings were presented and discussed at the Oregon Feed Manufacturers' meeting in February, 1950.

Shortly after the above, announcements were made that the activity of the fermentation products aside from vitamin B_{12} was due to antibiotic activity. These results were presented at the Animal Nutrition Conference held in Seattle, Wash., in early April of 1950. Later results were presented showing that Aureomycin had growth promoting activity at the American Chemical Society held in Atlantic City a couple of weeks later. The first publications showing antibiotics activity were published shortly thereafter from Lederle Laboratories and from Michigan State College. Following these developments, there were many, many reports from laboratories throughout the entire country showing that antibiotics such as Aureomycin, Terramycin, Streptomycin and penicillin were effective in promoting growth of young chicks and turkeys.

It was soon recognized that penicillin appeared to have superior growth promoting properties for chicks and turkeys as compared to the other antibiotics such as Aureomycin, Streptomycin and Terramycin.

After it was recognized that the growth promoting properties of some of the so-called animal protein factor supplements which were already on the market were due to a combination of vitamin B_{12} and antibiotics, it was not long until standardized supplements for either vitamin B_{12} or antibiotic activity or both were offered to the feed trade.

Specific Types of Feeds

From this point on, it might be well to discuss particular feeds for poultry in respect to antibiotics.

Broiler feeds and chick starters: The results with chickens have, for the most part, shown that the greatest advantage to feeding antibiotics comes in the first 8 to 10 weeks. For this reason, it is recommended that from 2 to 10 grams of antibiotic per ton of feed be used continuously in chick starters and in broiler feeds until they go to market. Results have shown that little benefit is obtained from levels of penicillin above 2 grams per ton. For the most part, the results indicate that from 7 to 10 grams of Terramycin, Aureomycin or Bacitracin should be used.

Developing rations for replacement pullets: A number of studies have shown that little or no benefit is obtained in the form of additional growth, feed efficiency or earlier maturity of pullets. Therefore, no recommendations are made by most of the college and experiment station laboratories for the use of antibiotics in developing rations.

Laying and breeding rations: The results from the use of antibiotics in laying and breeding rations are not in as complete agreement as is the case for starter and broiler rations. In many studies conducted with laying hens, no advantages have been obtained in the way of increased egg production, decreased mortality or increased hatchability from the use of antibiotics. In most of these experiments, the hens fed the unsupplemented diet performed satisfactorily, and in several other studies where hens fed the unsupplemented diets laid at an exceptionally poor rate, a response to antibiotics supplementation was obtained in egg production. The supplements increased the level of production from in the neighborhood of 35 to 40% to 45 to 50%. It would appear, therefore, that the possible benefit obtained by using antibiotics for laying and breeding hens depends much on the circumstances under which the experiments are conducted.

There is another experiment indicating that antibiotic supplements for hens produced favorable results during exceptionally hot weather in Arizona. An extensive experiment has just been completed with laying hens at the Western Washington Experiment Station where Aureomycin was used as a supplement for two different types of feeds at a nutritional level and at what would be considered a prophylactic or therapeutic level. No improvement was obtained by feeding either 10 or 100 grams of this antibiotic per ton of feed in

LAUHOFF'S
TOASTED CORN FLAKES
TOASTED WHEAT FLAKES
Ample Supplies—Carlots, Trucklots, LCL
WRITE, WIRE, OR TELEPHONE COLLECT
LAUHOFF GRAIN CO.
Cereals of Quality Since 1862
DANVILLE, ILLINOIS
TELEPHONE 1800
TELETYPE 8261

THAN ANY OTHER BAG

PULL AND TUG DAYS of opening bags are over! Actual light tracing photo shows how knife blades and pull-and-tug method *(left)* actually waste both time and product, while easy snap motion opening of new Hudson multiwall saves time and saves product.

SIMPLE BUT DRAMATIC demonstration of Snap-Open's *controlled* pouring is seen in these two photographs. With Snap-Open, spilling is at a minimum, pour-rate can be accomplished as desired from a thin stream to a hundred pounds.

Mail this coupon for free folder and information about the Snap-Open Sack.

Hudson Pulp & Paper Corp., Dept. FS-4
477 Madison Avenue, New York 22, N.Y.

Yes, please send further information on Snap-Open Sacks and how I can use this new development to increase my sales.

Name_____ Title_____
Company_____
Address_____
City_____ Zone____ State_____

HIAWATHA GRAIN COMPANY
910 GRAIN EXCHANGE
Minneapolis 15, Minn.
For POULTRY WHEAT SCREENINGS
Ground or Unground
FEED BARLEY
FEED OATS
Wire or write for prices

this experiment, when the over-all results are considered.

However, if the rate of production observed only during the 9th and 10th months of this experiment is considered, it appears that an improvement in egg production was obtained with both levels and, further, that the 10-gram level was approximately equal to the higher level. In this experiment, hens fed the unsupplemented diet averaged approximately 66% production throughout the experimental period of 10 months.

Turkey starting rations: Antibiotics are recommended for continuous use in turkey starters at levels comparable to those used in chick starters, for nutritional purposes. The growth response obtained with turkeys is generally much more striking than is the case for chicks.

In addition to the increased growth and increased feed efficiency, a much greater reduction in mortality is generally observed with turkeys than is the case with chickens.

Turkey developing rations: Contrary to the results obtained with replacement pullets, the results demonstrate that antibiotic supplementation of turkey developing rations through the time until the turkeys reach market age is beneficial.

Therefore, it is recommended that antibiotic supplementation at a nutritional level be continued after the turkeys are changed from the starter to the developer rations. An improvement in both growth and feed efficiency has been observed during the developing period with turkeys.

Turkey breeding rations: There is only a limited amount of evidence on the value of antibiotics for turkey breeding rations. In some instances, apparent improvements have been obtained, whereas, in others, no benefits have been obtained from supplementation of turkey breeding rations with a nutritional level of antibiotics. Whether or not the benefit would be obtained would probably depend entirely on the circumstances under which the experiments are conducted.

Duck rations: Little or no benefits have been obtained from the supplementation of duck rations with antibiotics.

Game bird rations: Pheasants have been shown to respond rather markedly to antibiotic supplementation. Therefore, it appears wise to supplement these rations with a nutritional level of antibiotics.

Disease prevention or treatment use of antibiotics: In addition to the effects of antibiotics which are obtained with use of relatively low levels (under 50 grams per ton), we have seen a tremendous increase in the use of higher levels of antibiotics for the purpose of treating or preventing certain types of diseases during the past couple of years.

For the most part, antibiotics are recommended for the treatment of non-specific type of enteritis in chicks and turkeys, for certain respiratory diseases such as CRD and sinusitis in turkeys and for certain other of the bacterial diseases. In some instances, it is recommended that a level of 50 grams per ton or higher be used in the feed continuously and in others, the recommendations are for intermittent use in the case where trouble develops.

Estimated benefits to the poultry industry from antibiotic use are estimated as follows:

Chickens: Based on an average increase in feed efficiency and growth rate, it is estimated that the returns in the broiler industry are increased better than $20 million annually through the nutritional use of antibiotics. The advantages obtained by the use of high level antibiotics in the broiler industry are difficult to estimate. In some instances, the average increase may be much greater than the above. It is ordinarily considered that antibiotics will increase the growth of chicks from 5 to 15% with a 5 to 10% improvement in feed efficiency.

Turkeys: In one very carefully conducted experiment, the value derived from the use of antibiotics in turkey feeds during the developing season amounted to an average of 50¢ per turkey. This was over and above the benefits obtained during the first eight weeks in terms of growth and reduced mortality. These are usually very striking in the case of turkeys during this period.

If one assumes what seems to be a conservative figure of 40¢ per turkey increased return, due to the nutritional use of antibiotics, it would appear that the turkey industry benefits to the tune of approximately $20 million per year over and above the cost of antibiotic supplementation.

In terms of benefits obtained from the use of high level antibiotics, it is difficult to obtain an average figure since these benefits are so strikingly different under different circumstances. It is recommended that the high levels be used whenever conditions appear to warrant such use and that a continuous or indiscriminate use where a situation does not warrant it will only result in increased costs and decreased profits for poultrymen.

John W. McNeal

APPOINTED — Appointment of John W. McNeal as territory manager for Hubbard Milling Co. in northern Indiana, working out of the Marion, Ind., plant and office, has been announced by Ogden Confer, manager of the feed division for the Mankato, Minn., company. Mr. McNeal received his Bachelor of Science degree in agriculture at the University of Arkansas in June, 1949, and taught vocational agriculture in Arkansas for two years. After one year as instructor at Monroe, Iowa, he joined the Sherwood Feed & Grain Co. at Monroe in July, 1952. He became active manager Jan. 1, 1954, and served in that capacity until coming with Hubbard Milling Co. in March. He is now living at Milford, Ind.

For Improving . . .
• Production
• Quality
• Sales
• Profits
Why Go Half Way?
CHOOSE FROM
Wenger's
COMPLETE LINE OF THE WORLD'S FINEST MOLASSES MACHINERY
Wenger Molasses Feed Mixing Equipment is engineered for efficiency, lower over-all costs and quality feed production.
Years ahead in the molasses feed mixing field, Wenger engineered complete package units are built to replace old fashioned, inefficient, piece-meal installations . . . and they are engineered to last. You can lower production costs yet turn out better, more uniform molasses feeds by installing Wenger Package Units.
For every feed miller, regardless of size, there's a Wenger Molasses Feed Mixer (capacities of 3 to 30 tons per hour), and Pellet Mill (capacities of 3 to 7½ tons per hour).
Look to Wenger for answers to any problem regarding Liquid Feed ingredients — molasses, fats, fish solubles, moisture, etc.
Shown here are several examples of Wenger's creative engineering to meet the needs of The Modern Feed Miller with practical solutions to his major production problems.
Why go half way? You'll make more profit at lower cost by GOING ALL THE WAY — with Wenger.
Write today for Wenger's recommendations to solve your particular problem. Please give as many details of the problem as possible, with an indication of capacities desired and types of feed to be handled. You may expect our recommendations promptly — no obligation, of course.
750 Series Molasses Feed Mixer—Capacities to 15 tons per hour—also available in Fat Mixer Model.
700 Series Molasses Feed Mixer—Capacities 3 to 10 tons per hour—also available with inclined auger feeder
600 Series Inclined Auger Feeder Model Molasses Feed Mixer—also available with hopper bin feeder
Largest Capacity High Speed Mixer—Capacities to 30 tons. Similar models in 3 smaller sizes also available. Handle several liquids—molasses, fats, fish, moisture—simultaneously.
1200 Series Live Bottom Bin Molasses Mixer for Lightweight Roughage Type Feeds—Capacities to 30 tons.
Wenger Inclined Belt Conveyor.
Wenger 50 Series Meter Flow Pump—available in molasses, fish, soluble or animal fat models.
Wenger Storage Tank Pumps.
4 Models of Feed Finishers & Dressers—Capacities 3 to 50 tons.
Wenger 100 Series Liquid Feeder for any Liquid Feed Ingredient.
Wenger Packaged Unit Molasses Feed Mixer and High Molasses Pellet Mills available in two models—1000 Series with capacity of 3 tons or Super 75 with capacity of 6 tons per hour at high molasses pellets.
Wenger Pellet Coolers for molasses pellets or hard pellets. Capacities 3 to 30 tons per hour in 4 sizes of single-stage or two-stage superposed coolers.
Wenger Mixer Mfg. Co.
SABETHA, KANSAS
Standard of the Industry for Molasses Feed Mixing and Pelleting Equipment.

DISTILLERS' FEEDS *belong* IN THIS PICTURE . . .

85% T.D.N. at 1/3 Feed Cost

DISTILLERS DRIED SOLUBLES	
• Protein	24-30%
• Fats	5%
• Mineral	6%
• T.D.N.	85%
• B Complex Vitamins Growth Factors	

TESTS have proved that Distillers Dried Solubles belong in the poultry feeding picture! Feeds fortified with Distillers Dried Solubles give your customers 100% feed power at a fraction of the cost of expensive ingredients such as *dried skim milk.* They also reduce the quantity of animal proteins and other high cost supplements necessary to a well-balanced poultry diet. The reason for this greater feeding efficiency is because Distillers Dried Solubles contain all of the important proteins, minerals and B vitamins, plus unidentified growth factors.

For additional information write to Distillers Feed Research Council, 1232 Enquirer Building, Cincinnati, Ohio.

DISTILLERS
Feed Research
COUNCIL

James B. Beam Distilling Co., 65 East South Water St., Chicago 1, Ill. • Calvert Distillers, 1010 Massachusetts Ave., Boston 18, Mass. • Brown-Forman Distillers Corp., P. O. Box 1080, Louisville, Ky. • Fleischmann Distilling Corp., 595 Madison Ave., New York 22, N. Y. • Glenmore Distilleries Company, Owensboro, Ky. • Grain Processing Corporation, Muscatine, Ia. • Kentucky River Distillery, Louisville, Ky. • Hoffley Distilling Co., P. O. Box 593, Owensboro, Ky. • Merchants Distilling Corp., 1 N. LaSalle St., Chicago, Ill. • Midwest Solvents Corp., Atchison, Kan. • National Distillers Products Corp., Grain Products Div., 99 Park Avenue, New York, N. Y. • Park & Tilford Distillers Corp., 485 Fifth Ave., New York 17, N. Y. • Schenley Distillers, Inc., Grain Department, 26 East 6th St., Cincinnati 2, Ohio • Joseph E. Seagram & Sons, Inc., Grain Products Division, 7th Street Road, Louisville, Ky. • Stitzel-Weller Distilling Co., Station B, Louisville, Ky. • Wm. Walker & Sons, Inc., P. O. Box 1957, Detroit, Mich. • James Welsh & Company, Lawrenceburg, Ind.

McLAUGHLIN GORMLEY KING CO.
INCORPORATED
MANUFACTURING CHEMISTS · IMPORTERS AND MILLERS

1715 FIFTH STREET S. E.
MINNEAPOLIS, 14
MINNESOTA

The answer to your dust problem, too, may be the new Air Centrifuge!

I want you to know of the excellent results we are obtaining with the Superior Air Centrifuge which you installed for us some time ago.

Our problem was to recover an extremely fine vegetable dust (more than 90% passes through a 200 mesh screen) which was escaping our cyclone collectors, and was venting to the outside as a loss. Two cyclone collectors are used in connection with a pair of hammer mills which grind our product. Our over-all loss in grinding was from 8% to nearly 5%.

Our present installation uses a Superior Air Centrifuge in connection with a single hammer mill and cyclone and has resulted in the following benefits for us:

1. Cut former over-all loss in grinding by 50% or more.
2. Such complete recovery of the dust formerly vented to the outside that the air may now be discharged within the room with resultant heat saving in winter.
3. Increased operating efficiency so that the per mill output increased 50%.
4. Effected a desired particle separation by collecting the recovered fine dust separately.

Our experience with the Superior Air Centrifuge, as a means of helping to solve our dust problem and in reducing costs, has been very favorable, and I unhesitatingly recommend that anyone who has a dust problem contact your company for help in solving such a problem.

Yours very truly,
MC LAUGHLIN GORMLEY KING COMPANY
Dail C. LaCraft
Factory Manager

Dail C. LaCraft
y

WRITE TODAY!
We'll be happy to furnish complete information. If you wish, a Superior representative will call to help with your problem.

Superior's direct factory representative for California:
FRED B. DOUGLASS
100 Laurel St.
San Carlos, California

Superior
SEPARATOR COMPANY
PROCESS MACHINERY DIVISION · HOPKINS, MINN.
Superior distributors in: Charlotte, New Orleans, Des Moines, Spokane, Seattle, Oakland, Oklahoma City, Ft. William, Winnipeg.

FEEDSTUFFS—LEADER in its field
More advertisers use FEEDSTUFFS than any other publication in the feed industry

DRIED BEET PULP
ONE OF THE GREATEST FEEDS FOR ALL LIVESTOCK

1 Dried Beet Pulp is flexible—fits right into any ration you want to feed.
2 Dried Beet Pulp is bulky—swells to many, many times its original volume to allow the gastric juices to circulate freely.
3 Dried Beet Pulp opens up readily to aid in the digestion of other feeds.
4 Dried Beet Pulp is highly palatable—animals relish its succulent flavor.
5 Dried Beet Pulp is rich in M-S-F . . . the mysterious Milk Stimulating Factor.

There's nothing like it. No wonder Dried Beet Pulp is the standard of all dairy and beef feeds.

NOBODY TRIES TO MAKE A RECORD WITHOUT DRIED BEET PULP!
YEAR 'ROUND PASTURE
MOWAT, WILSON & CO.
Detroit 35, Michigan

Values of Range Cubes in Supplementary Feeding of Range Cattle

By George P. McCarthy
Executive Vice President
Universal Mills, Fort Worth

EDITOR'S NOTE: One of the important developments in beef cattle feeding has been the manufacture and use of range cubes. In this article, Mr. McCarthy points out the values of using balanced, fortified range cubes for supplementary feeding of range cattle.

The rancher is constantly searching for methods or programs that will improve the general health of his animals and increase the percentage of his calf crop. Improvement in cattle, together with improved herd management, is contributing materially to better calf crops, but there is a third factor that is becoming increasingly important to the rancher in his search for ways and means to increase the calf crop, and that factor is the wider use of a well balanced, fortified range cube.

Beef cattle on partially depleted ranges often go into the winter months without sufficient body reserve and the necessary fats, minerals and vitamins. These deficiencies are responsible, to a large degree, for breeding problems that result in a reduced calf crop and calf losses after birth.

The feeding of a supplementary protein ration to beef cattle during the fall and winter months when range grasses are scarce is becoming an accepted practice by most cattle breeders. When the grass is scarce, breeder cattle must be given additional feed if body weight is to be maintained and other nutritive requirements met.

Vitamin A Important

Vitamin A is just as important to the animal as protein and carbohydrates. A vitamin A deficiency can cause livestock not to breed. After they are bred, a deficiency of vitamin A can cause the females to abort or lose their young. A deficiency of vitamin A causes a reduction in milk production, and adequate milk production is essential for proper development of the young.

The need for nutritive maintenance of the herd during the fall and winter has resulted in the increased popularity of range cube feeding.

For many years the rancher has fed straight cottonseed or other high protein cakes, and this practice still sets the price pattern to a large degree on range cubes. Research work during the past 10 years, especially on vitamin A, carbohydrate and mineral requirements for range animals, has placed a premium on a high quality cattle cube.

It requires approximately twelve times as many carbohydrates as protein to maintain beef animals. Roughage, in the majority of cases, will supply enough carbohydrates, but in many cases, especially where drouth conditions are present, this will not be the case. A properly fortified range cube with 20% protein and a heavy grain base such as milo or corn will supply twice as much digestible carbohydrates as would cottonseed meal or any other high protein cake. It is this means of supplying carbohydrates along with protein that contributed

(Continued on page 82)

George P. McCarthy

100% SISAL FIBER
Only the finest Grade "A" sisal fibers, grown under ideal conditions in Yucatan, Mexico, are used in making J-MTC baler and binder twines. Fibers are combed at least 8 times to insure proper, uniform length. It's strong, uniform and—most important—the baler twine is knotless. Absolutely the finest sisal, made to rigid specifications.

SPECIALLY TREATED WOUND AND PACKAGED
J-MTC twine is chemically treated with moisture, rodent and insect repellents. It is machine wound so that the last pound won't collapse. Each cylinder is wrapped in strong thick paper and tagged to indicate starting point for smooth running. Bundles are bagged in extra heavy waterproof kraft paper, securely bound for extra protection.

BAILER AND BINDER COMBINATION SHIPMENTS
Baler twine is shipped in bundles of two cylinders totalling 40 lbs. gross. Each bundle of binder twine has 6 cylinders, gross weight 50 lbs. Combinations easily made.

A FAST-SELLING FARM TESTED PROFIT ITEM
Wherever you sell twine under the J-MTC emblem, it means profits for you and satisfaction for your customers. You can be sure that the quality of this baler or binder twine is superior and every inch will deliver fullest performance and satisfaction

Order Now for Prompt or Later Shipment

J-M TRADING CORP.
111 W. Jackson, Chicago 4, Ill.
Telephone WAbash 2-2065

HERE'S WHY

BIGGER DOTY LAB SERVICE

IS LIKE HAVING YOUR OWN FEED MILL LABORATORY

Joseph Dotson, of Doty Laboratories, is shown here at the operating controls of the Beckmann Spectrophotometer for rapid carotene determination

✓ NEW HIGH SPEED EQUIPMENT

We have added a new spectrophotometer. This sensitive electronic apparatus performs rapid and highly accurate measurements of chemical compounds that can be assayed by light. It is the ultimate in flame photometry, permitting readings in every wave length. The machine gives us fast and accurate measurements of vitamins, trace minerals and other micro-nutrients.

✓ QUICK ASSAYS ON STILBESTROL

We pioneered in setting up methods for feed stilbestrol assays. We are fully equipped to give you fast, accurate service on stilbestrol feeds. We can save you time.

✓ LARGE QUARTERS IN KANSAS CITY

For better service we have acquired additional space and have added personnel to our micro-biological laboratory in Kansas City. Again this will save you time.

ASK ABOUT OUR LOW COST INGREDIENT ASSAY PLAN

Protect Your Feed Quality With Our Economical Plan for Systematic Checking of Ingredients and Finished Feeds. Your Feeds Can Be Labeled Laboratory Controlled at Remarkably Low Cost to You. Ask Us.

Write for full particulars

DOTY
Technical Laboratories
8 W. 9th St., KANSAS CITY, MISSOURI
A RECOGNIZED REFEREE LABORATORY

MEMBER:

AMERICAN ASSOCIATION OF CEREAL CHEMISTS

AMERICAN DEHYDRATORS ASSOCIATION

MIDWEST FEED MFRS. ASSOCIATION

Timely, educational advertising like this, now appearing in these publications, tells your customers when to use high-level Terramycin-fortified feeds

Farm Journal

Better Farming

Successful Farming

Progressive Farmer

Better Farming Methods

Agricultural Leader's Digest

National 4-H News

County Agent and Vo-Ag Teacher

American Poultry Journal

Poultry Tribune

Broiler Journal

Broiler Growing

Turkey World

Eastern Breeder and Broiler Grower

Pfizer sells the need —you sell the feed

Stop disease before it starts
The use of high-level antibiotic-fortified feeds is becoming as much a part of a good disease-prevention program as vaccination.

How STRESS increases the need for a High Level* Feed

Disease is most likely to break out in your herd or flock after a stress or upset. Vaccination, castration, chilling, moving, or overheating cause a temporary letdown in natural resistance, lowers appetite, slows down growth.

When you use a feed with *extra* Terramycin for a few days following any upset, you give your birds and animals the additional *wide-range* antibiotic protection they need to throw off disease, keep right on making good healthy gains.

PREVENT BLUE COMB *(Mud Fever, Non-specific Enteritis)*

This disease often breaks out suddenly, sweeps through a flock of pullets or turkeys following summer rains, hot weather. When there's a sudden change in the weather it's time to put a high level Terramycin feed in the feeders. Terramycin also helps prevent heavy losses from respiratory diseases.

PREVENT SCOURS *(Infectious Scours, Necro)*

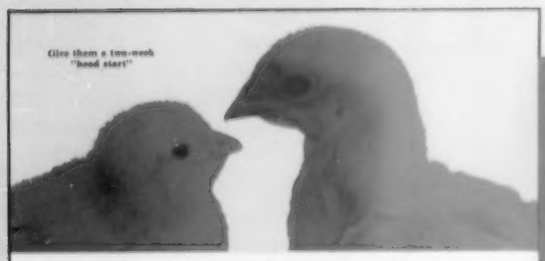
Losses from setbacks and unthrifty gains following this disease are often greater than actual death losses. When pigs are eating less it takes 10 to 20 times as much antibiotic to knock out the scours germs. You get these effective levels of antibiotic in High Level Terramycin feeds.

Fight disease... feed for profit

ASK FOR FEEDS CONTAINING
Terramycin*
*at high levels

Chas. Pfizer & Co., Inc.
Brooklyn 6, New York
World's largest producer of antibiotics

Pfizer



Why does it pay to start them on a High Level* Feed?

Disease losses, stunting and setbacks are greatest during the first weeks of life. Using one of the new high level feeds in your starter ration can help you cut those losses ... pull many of your baby chicks, pigs and calves through this critical period.

These disease-fighting feeds contain 10 to 20 times as much antibiotic as feeds used for growth promotion. So even very young birds and animals with little appetite ... and ones that are eating less because they're sick ... get enough antibiotic to help them throw off disease, make fast (hefty) gains.

With High Level feeds containing Terramycin you can give your baby chicks this extra antibiotic protection for a full two weeks at no extra feed cost, if only 1¢ a bird. The cost is correspondingly low for pigs and calves. High level Terramycin feeds are also recommended ...

When pigs or calves are scouring, birds or animals are off feed. Use high level feeds for Scours, Necro, Infectious Diarrhea of pigs and calves, for Chronic Respiratory Disease, Air Sac, Blue Comb, Non-specific Enteritis, Hexamitiasis in poultry. Mix 1kg on the hog for fast. Feed until trouble is cleared up. Helps get birds or animals back on full feed and growing again.

When egg production falls off, it's often the sign of a low-grade infection. It's a good idea to switch to a high level feed any time egg production drops below normal. You need hens laying at their normal rate.

At times of stress, such as moving, vaccination or other upset, feeds to lower to extreme drop upon the way to disease. Because to feed or flock a year previously that from disease causing germs, high level feed at time of stress helps keep infection from flaring up. Helps turn turnout losses into future profits.

Chas. Pfizer & Co., Inc., Brooklyn 6, New York *World's largest producer of antibiotics*

fight disease... feed for profit

Pfizer

Ask your dealer for feed containing
Terramycin*
*at high levels

How a High Level* Feed helps you send more to market

It's not the number of pigs, poults or chicks you start with but the number of pounds of meat and dozens of eggs that actually reach market that puts the profit into your pocket. Disease losses, setbacks, slow gains and low egg production due to low-grade infections cut heavily into those profits.

That's why the new high level feeds with extra Terramycin* can help almost every farmer increase his income. They not only fight disease. They're mighty effective in preventing disease losses. Use at the first sign of trouble. Droopiness or a fall off in appetite or production, and other any stress or upset. High level Terramycin feeds help to keep your whole herd or flock healthy and keep them growing.

Pigs ...

Chickens ...

Turkeys ...

Fight disease... feed for profit

ASK FOR FEEDS CONTAINING
Terramycin*
Pfizer *at high levels

NOW IS THE TIME

Now is the time when high-level feeds are needed on almost every farm to give the spring crop of young animals and birds a disease-free start to market . . . to help them ward off disease at times of stress . . . to help them throw off infection when disease does strike.

Pfizer educational advertisements like the ones shown here give your customers facts about when and how it pays to use a high-level feed. They not only help build sales of your high-level feeds, they help to maintain sales of your regular feeds, too. That's because every hog, chicken or turkey lost through disease means less feed needed, every one saved means feed sales. Keeping them healthy and gaining helps the feeder to get the full performance that you build into your feeds.

These ads tell feeders why it pays to use a wide range antibiotic like Terramycin® that is effective against both primary and secondary disease-causing organisms (most poultry and animal diseases are complicated by secondary invaders). Remember, that *no other antibiotic is effective against more disease-causing organisms than Terramycin.*

TO FIGHT DISEASE—FEED FOR PROFIT

Terramycin®*

BRAND OF OXYTETRACYCLINE

Pfizer

*at high levels

Chas. Pfizer & Co., Inc.
World's largest producer of antibiotics

630 Flushing Ave.
Brooklyn 6, New York

1151 Chattahoochee Ave., N.W.
Atlanta 2, Georgia

425 N. Michigan Ave.
Chicago 11, Illinois

1500 16th Street
San Francisco 3, California

to the wider use of range cubes by cattle producers.

In an intensive field test conducted by the research department of Universal Mills in 1944 at Barnhart, Texas, with Gene Linthicum, it was found that the addition of 10,000 units of true vitamin A per pound to the range cubes supplied sufficient vitamin A to the animals on range to materially affect the calf crop. Those cattle that were on range cubes minus vitamin A had approximately 10% less calf crop than those on the same range cube fortified with vitamin A. Not only is vitamin important to the mother cow with calf but it is very important in breeding and also in milk production.

From observation in working with ranchers, cattle and sheep respond rapidly to vitamin A on depleted ranges. One such illustration of this was where a rancher in the extreme drouth area had lost 200 lambs, 400 ewes, 50 calves and 10 cows at lambing and calving time, due to vitamin A shortage. When this herd was supplied with a feed very high in vitamin A, 30,000 units per pound, and fed at the rate of 3 lb. per head per day for 20 days, the losses stopped. After the vitamin A requirements of the animal have been met, they can be maintained in very good condition with a relatively low level of vitamin A intake.

Addition of Minerals

In addition to the vitamin A that can be added to range cubes along with carbohydrates and protein, the addition of trace minerals is playing a very important part in the improvement of calf crops. Manganese definitely has a very important bearing on breeding and cobalt is gaining more in importance in the feeding of the microorganisms in the paunch.

The latest addition that has been developed in range cattle feeding has been the addition of phenothiazine at a low level to where the cattle can consume approximately two grams per head per day. Beef cattlemen have not been as cognizant of intestinal parasites as have sheepmen, but recent work by investigators reveals that intestinal parasites constitute a serious problem not only in the Southwest but nationally. The low level feeding of phenothiazine in range cubes is aiding in the solving of this problem, and also where it is carried over a period of time, it will enable the rancher to slowly but surely get rid of the intestinal parasites on his ranch, and this is of tremendous economical importance.

Some work being conducted at the present time indicates that a low level feeding of phenothiazine may aid in the control of cattle grubs. If this work is carried through to a satisfactory conclusion, this will be of tremendous importance to the cattle industry.

In some sections of the country, ranchers are requesting a salt cube containing from 25 to as much as 40% salt. The purpose of this cube is to allow it to be fed free-choice and limit the amount of feed intake by the salt intake, by the animals. Most of these cubes are fed on the ground, the same as the other cubes, but the cattle can only eat approximately three pounds per day, which gives them about two pounds of protein meal and one pound of salt.

This type of cube, while gaining in popularity in some areas, is one that must be handled carefully. The excess salt is very hard on equipment. The salt cubes are dangerous to feed unless the animals have water readily available. If the animals are on a high salt cube and are without water for a short period of time, then some losses may occur.

Urea Used

The use of urea in cattle cubes as a means of building up the protein level is proving popular. Urea should be used in combination with soybean meal, if the meal is properly toasted or heat treated. Urea, as a source of protein, will continue to play a prominent part in rumen feeding. Urea can make up one third of the protein value of a range cube.

Range nuggets offer the rancher a feed to which quality carbohydrates and proteins can be balanced, to supply the needs of the animals. For greater protection of health and for improved breeding, vitamin A, vitamin D and essential minerals also can be added. For control of internal parasites, phenothiazine can be added to the same nuggets, without affecting the nutritional balance and palatability.

BROILER FEED

(Continued from page 71)

great deal is that the micro-nutrients now can be added in the form of various concentrates and additives so that greater advantage, pricewise, can be taken of certain of the natural ingredients. Today we certainly find ourselves using relatively larger proportions of a certain few natural ingredients by virtue of the fact that we can combine these with trace amounts of a lengthening list of micro-nutrients, in order to make a balanced ration that takes the fullest possible advantage of all of our modern know-how.

"Another thing which perhaps should be noted is that the 1934 feed was used as a mash. Our 1951 program consisted of a separate starter crumble feed for the first six weeks, followed during the last four weeks with a finisher feed fed partly as crumbles and partly as pellets. The 1955 program also takes advantage of a separate starter crumble for six weeks, followed by a different feed in the form of a finisher used as crumbles and pellets to stimulate feed intake as much as possible."

It's Results That Count

Returning to the cost of the feeds, it is evident that price is not the all-important thing, Dr. Bechtel points out. As someone has said, "The results you get out of a feed are more important than the price you pay for it. Quality is economy."

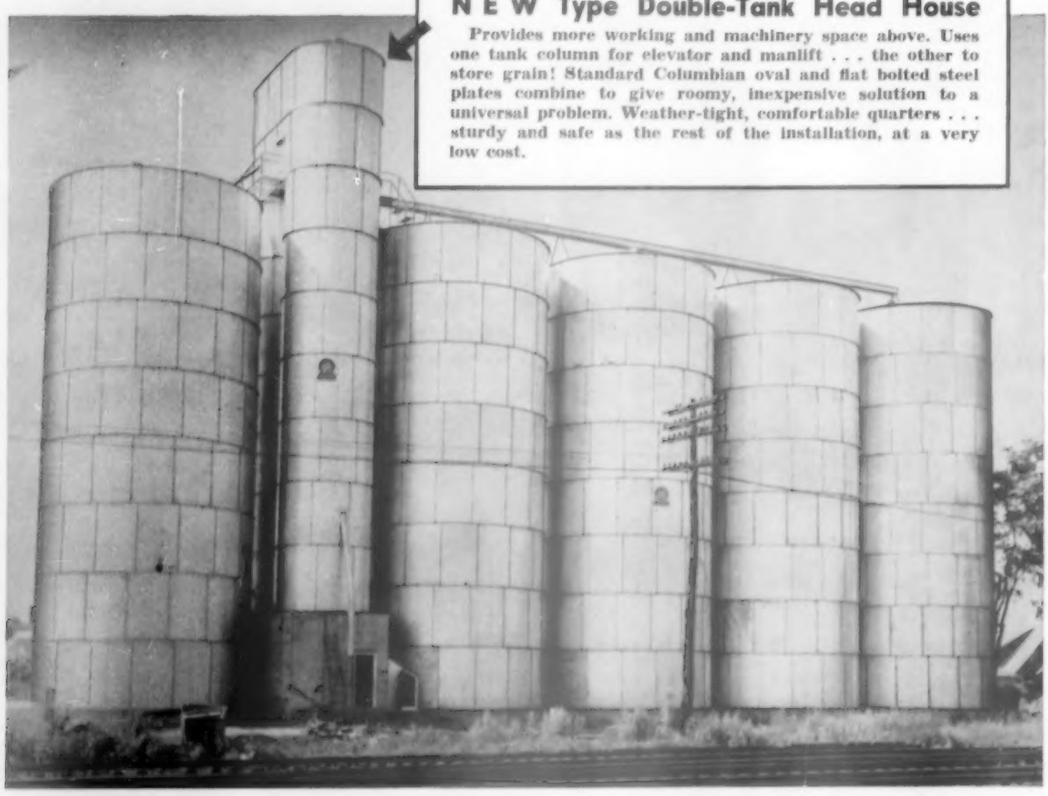
In other words, even with the increased cost per ton of feed over the years, it is quite apparent that the income-over-feed-cost has improved considerably as we have learned more about the making of rations for broilers since 1934.

"It is detected rather quickly, too, that a person just couldn't stay in business today by using a 1934 feed," Dr. Bechtel notes. "If we assume the feed is about two thirds of the cost of producing broilers, it is determined right on the face of it that the $45.90 remaining after paying for each ton of feed would result in a failing broiler enterprise if a person used a 1934 feed costing $99.03 per ton on today's market."

"From the standpoint of body weights and feed efficiency, it also would be ridiculous to try to use a 1934 type feed today, even though that particular feed was the best we knew how to make in 1934."

NEW Type Double-Tank Head House

Provides more working and machinery space above. Uses one tank column for elevator and manlift . . . the other to store grain! Standard Columbian oval and flat bolted steel plates combine to give roomy, inexpensive solution to a universal problem. Weather-tight, comfortable quarters . . . sturdy and safe as the rest of the installation, at a very low cost.



150,000 Bushels of Low-Cost, Profitable Storage!

• With a minimum of investment, Farmers' Cooperative Elevator, Tiffin, Ohio, now offers modern grain storage second to none. Five Columbian Bolted Steel Grain Tanks and the new Double-Tank Head House combine to make 150,000 bushels of storage. Low in first cost. Speedily erected by ordinary labor, without special tools. And their ease of maintenance and long service life are a big boost towards profitable operation! Reasons aplenty why Farmers' Coop specified "Columbian."

COLUMBIAN USDA APPROVED

BOLTED STEEL GRAIN STORAGE TANKS

You expect storage to be fire-proof, weather-proof, rodent-proof. Columbian Bolted Steel Grain Tanks are . . . and more. They never crack or crumble. They require no caulking or patching. Service tests in every climate for over 30 years prove them ideal for small grain . . . wheat, oats, corn, barley, cotton seed, linseed, soya beans, flax, peanuts, rice, coffee beans. None has ever worn out. Not one has ever been mastered by a tornado.

Columbian offers FREE engineering service . . . designs your tanks to meet your specific problem and arrangements. WRITE TODAY for free, fully illustrated literature giving complete details of each Columbian model. Make your storage pay you more.

COLUMBIAN STEEL TANK CO. P.O. Box 4048-R, Kansas City, Mo.

Associate Member of the Grain and Feed Dealers National Association

Trade Mark Reg. U. S. Pat. Off.

Do you have the facts on these profit-building supplements from Du Pont ?

THESE QUALITY PRODUCTS for animal health and nutrition are offered by the Grasselli Chemicals Department of Du Pont. By adding to the efficiency of today's feeds, they are a profitable sales factor in many formulations. For full details on their value in *your* line of feeds or medicines, write to the nearest Grasselli Sales Office.

DU PONT

REG. U.S. PAT. OFF.

BETTER THINGS FOR BETTER LIVING...*THROUGH CHEMISTRY*

E. I. DU PONT DE NEMOURS & CO. (INC.)

Grasselli Chemicals Department, Animal Industry and Nutrition Section—Wilmington, Del.

DISTRICT OFFICES:

Atlanta 3, Ga.....739 Peachtree St.
Birmingham 3, Ala. 904 Protective Life Bldg.
Charlotte 1, N. C....427 West Fourth St.
Chicago 32, Ill. 4251 South Crawford Ave.
Cincinnati 2, Ohio 603 Terrace Plaza Bldg.
Cleveland 14, Ohio 1321 Nat'l City Bank Bldg.
Detroit 7, Mich..1530 East Hancock Ave.
Houston 25, Tex. 1100 East Holcombe Blvd.
Milwaukee 3, Wis. 161 West Wisconsin Ave.
Minneapolis 2, Minn..1207 Foshay Tower
Philadelphia 3, Pa. 1617 Pennsylvania Blvd.
St. Louis 7, Mo.....112 West Ferry St.
San Francisco 4, Calif.....111 Sutter St.

IN CANADA: DU PONT COMPANY OF CANADA LIMITED, BOX 660, MONTREAL, P. Q.

METHIONINE

The essential amino acid Methionine is helping to make today's top rations for growing poultry more profitable. Through its vital functions in growth and the building of body tissues, added Methionine promotes more rapid and more economical gains—better feathering and better finish for chickens and turkeys.

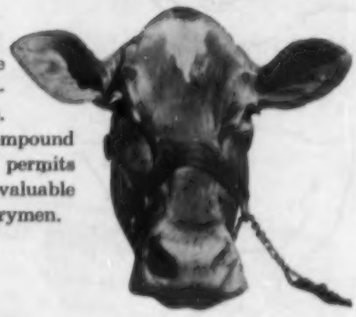
PHENOTHIAZINE

This is a *new* opportunity. New research shows products containing Phenothiazine control worm parasites in beef cattle and young dairy stock. Pheno controls more worm parasites than any other known drug—application of low-level feeding now makes it a really important factor in increasing livestock profits.

DELSTEROL®

"Delsterol" is the exceptionally stable source of vitamin D_3 made by Du Pont. In the 16 years since its introduction, every pound of "Delsterol" assayed by regulatory officials has been reported guarantee sustained.

SODIUM PROPIONATE



Sodium propionate is effective for prevention and control of ketosis (acetonemia) in dairy cows. This product, produced as a compound of drug quality by Du Pont, permits feed manufacturers to offer a valuable new service to the nation's dairymen.

DPPD

(Diphenyl-P-phenylenediamine)

Feed grade anti-oxidant

Manufacturers of poultry feeds are finding it profitable to utilize the well-known anti-oxidant and preservative properties of DPPD. In mixed feeds DPPD helps protect potency of Vitamin E and other fat-soluble vitamins. By stabilizing fats and oils in natural feedstuffs ingredients, DPPD helps retain their full nutritive value.

Times Have Changed

"There is nothing like a big steak to put me on top of the world," said Milt Peters, folding his napkin and placing it beside his empty coffee cup. "I wish I had the money to eat here every night. And that gal who waits on us makes my heart flutter, too. Only thing is, she is blond, and I like redheads better."

Pop Henley, the elderly employee in Joe Brooks' crew, snorted and looked around for something to throw at Milt, but a look from Joe Brooks stopped him. "Hold it, Pop," he said. "We are not at the feed mill yet. If you throw something here, they won't let us have our dinners here any more. Let's get over to the mill and get that sales training meeting going. We need ideas—to help pay for this spread."

Pop shoved his chair back and got heavily to his feet. "If Milt would only stop talkin' about women," he growled. "Golly, that fellow irritates me when he does that."

Milt smiled as he and the rest of the employees made their way out of the dining room of the Hotel Manitou, got their hats and set out on a long walk to the feed mill. The aroma of 15¢ cigars drifted behind them in the cool spring air. There were 10 men in all—Joe Brooks and five employees from the Hansen's Creek mill, and Ed Eggers, manager of Joe's Endeavor branch mill, and three employees. Each month on the second Monday night, they gathered for a sales training and business producing meeting.

When they were all seated in the big salesroom, with Joe perched on a counter, Butterball Barlow, the chubby, youngest employee said, "Joe, I see that Feedstuffs is celebrating its 25th anniversary this spring."

The brown haired feed dealer nodded. "Sure, and I have been subscribing to Feedstuffs from the very start. You boys know I get lots of my ideas from that paper."

"Joe," asked Butterball, "how many years have you been in the feed business?"

The feed dealer grinned. "Trying to make me admit how old I am, eh? Well, I started this business in 1937. Before that I worked for a dealer in the next county for nine years. So, you see I've been around a long time."

"How in the world did you happen to buy this mill, Joe?" asked Smiley Johnson, the employee who was handy with signs and window displays.

The feeder dealer laughed softly. "Well, Mary had a lot to do with that. The dealer I worked for sold out, and the man who came in had his own men to take over. So I was left without a job. I told Mary that I had always wanted to start a feed business of my own, but now that the time had come where I could do it. I was afraid to take the chance."

The men were listening intently. This was the first time some of them had heard how Joe got into business. "But Mary egged me on," Joe said seriously. "She said this was the time to take the plunge. When I asked where we'd get the money to buy a going business, she said we'd take our savings out of the bank, sell our small home and borrow on my life insurance if necessary. Well, when a woman is willing to do that for a man, what else can you do but go ahead?"

"How'd you find this mill?" Pop asked.

"We heard from a salesman it was up for sale," Joe replied, "and we came here and looked it over. We made the deal and had to borrow every cent we could to swing it. But we came out all right. Now I suppose hearing this story, you fellows will all leave me and go start a business on your own."

"Milt can't," grinned Smiley. "Redheads keep him broke. He owes me $35 already. Says I'll get it back on payday."

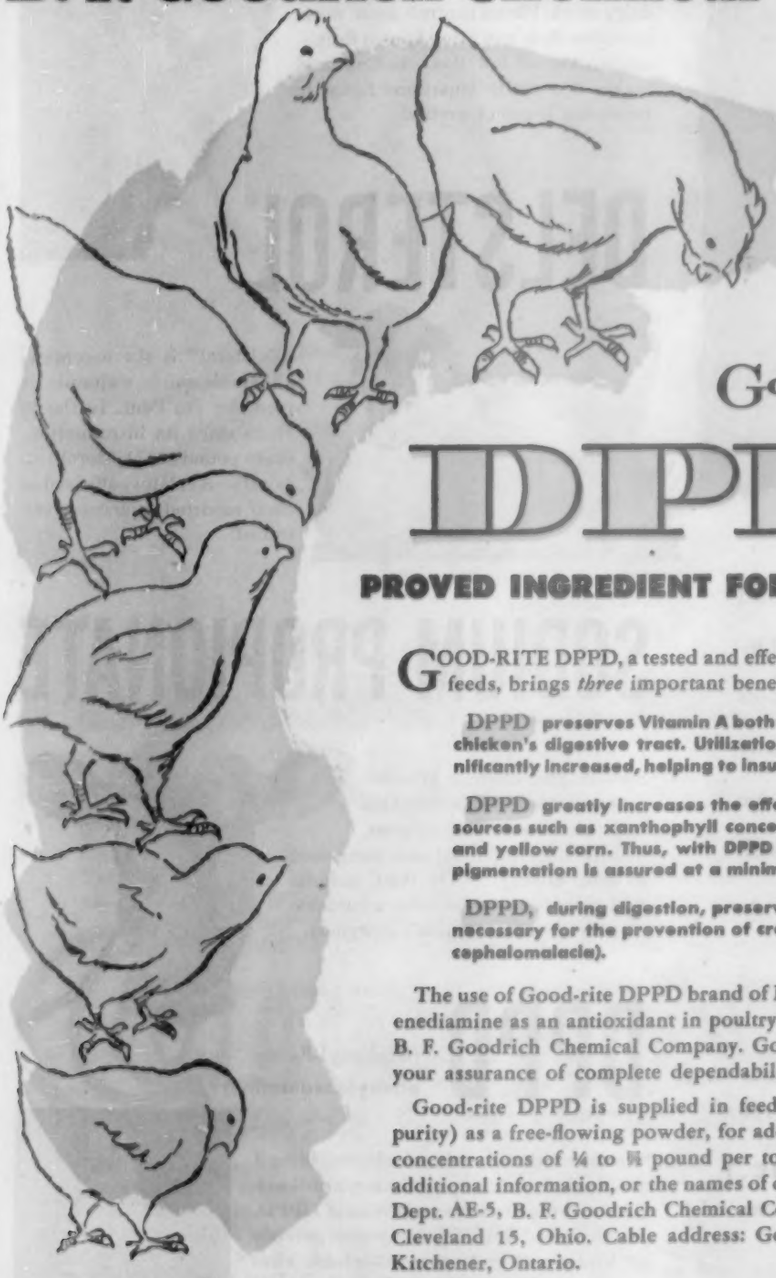
At this everyone burst into laughter, but it didn't disturb Milt. "All right, you guys," he said with a superior air. "I'm havin' a little fun when I'm young. I'm not going to wait till I get to the pill taking stage around 60 or 70. I'm not so dumb. I'll laugh at you guys when you chase gray haired widows."

Pop was about to explode again when Butterball said, "What was the feed business like, Joe, about 20 or 25 years ago? Was it really much different from today?"

Joe grinned. "Huh, it sure was. Business changes just like styles. In

News about

B. F. Goodrich Chemical *materials*



Good-rite

DPPD

PROVED INGREDIENT FOR POULTRY FEED

GOOD-RITE DPPD, a tested and effective additive for poultry feeds, brings *three* important benefits to the poultry raiser.

DPPD **preserves Vitamin A both in the feed and in the chicken's digestive tract. Utilization of Vitamin A is significantly increased, helping to insure most rapid growth.**

DPPD **greatly increases the effectiveness of pigment sources such as xanthophyll concentrates, alfalfa meal, and yellow corn. Thus, with DPPD in the formula, good pigmentation is assured at a minimum cost.**

DPPD, **during digestion, preserves Vitamin E which is necessary for the prevention of crazy chick disease (encephalomalacia).**

The use of Good-rite DPPD brand of N,N'-diphenyl-p-phenylenediamine as an antioxidant in poultry feeds was pioneered by B. F. Goodrich Chemical Company. Good-rite brand DPPD is your assurance of complete dependability.

Good-rite DPPD is supplied in feed grade (95% minimum purity) as a free-flowing powder, for addition to poultry feed in concentrations of ¼ to ½ pound per ton of feed. For samples, additional information, or the names of distributors, please write Dept. AE-5, B. F. Goodrich Chemical Company, Rose Building, Cleveland 15, Ohio. Cable address: Goodchemco. In Canada: Kitchener, Ontario.

Good-rite chemicals

B. F. Goodrich Chemical Company

A Division of The B. F. Goodrich Company

the feed business it changed for the better. Why 25 years ago we'd pat ourselves on the back for a half day if we could get a chick customer to try a bag or so of growing mash after he got through using chick starter. An awful lot of farmers fed growing chicks home grown grains. They did a lot of grinding and mixing on farms in those days, too, sometimes with a chain store bought mixer or with a shovel or both. Lots of farmers figured if the dealer could do it, they could, too, and save money in the process."

"Huh, it's different nowadays," said Ed Eggers. "Farmers take it for granted that it's smart management to feed growing mash to chicks and then follow up with good laying mash—a complete cycle to produce more eggs."

"The kind of feeding we do with broilers today wasn't dreamed of 25 years ago," Joe said. "In fact, chicks were chicks, and the farmer took what was offered. Today through education and experience, he really makes sure he buys the right chicks for his laying and broiler flocks."

"I was on the road selling mayonnaise 25 years ago," Pop said. "I made an awful good record out in Iowa, and I remember hearing Iowa farmers talk about using a little concentrate now and then to make hogs grow faster. But corn was the principal food. Now look how fast they can grow and fatten hogs with antibiotics."

"And very little balanced dairy feed was being used as it is today," Joe recalled. "Farmers relied on hay and silage for the most part, with a little straight bran sprinkled over the top of each feed batch. And few farmers weighed feed in relation to milk production."

"Gosh," said Smiley, "I figure I was wearing three corner pants when all this was happening. The feed industry has come a long way, hasn't it?"

"It certainly has," Joe said. "Not only has the industry steadily provided feeds which continue to increase egg production, but also feeds which help farmers to fatten hogs and cattle quicker at more profit. The industry has also helped educate the farmer in the way of better management for livestock and poultry."

Better Selling

"And don't you think, Joe," put in Pop, "that there has been a tremendous increase in better selling and store display in the feed business, too, in the last 20 or 25 years? You never saw many sharp looking stores back in the days when I was selling mayonnaise."

"That's right, Pop," Joe said. "You had to travel pretty far to find a roomy, well lighted feed store, with good displays and informational signs. Now you can find quite a few of those modern stores in many counties. The modern feed dealer knows what it takes to sell and build a business. He's got a well equipped mill and a good retail store. He rates with other merchants in his town."

"I'll bet employees in those days didn't have to come to sales meetings," Milt kidded.

"Very few," admitted Joe, "but they didn't get any free steaks and 15¢ cigars, either."

"Joe," said Butterball. "You've told us enough about the old days, contrasting them with the new, so that we ought to run a series of ads contrasting conditions 20 years or so ago with today, and point out the advances the retail feed industry has made in that time, and how farmers have benefited."

"Good idea," Joe said, his eyes bright. "Maybe that's the business idea we're supposed to get tonight."

"I got another idea," Milt said, looking at his watch. "And I can carry it out, if we get to work right away and work out some ads so we can terminate this meeting. Strike when the iron's hot. That's my motto."

Now-

the Newest Product of the DEHYCO Line-

Our development of a special process now enables us to offer a new, finer corncob meal of great value to Feed Mixers, and of particular interest to Pellet Manufacturers. Called DEHYCO-10, this newest product provides year-around uniformity in nutritive value, appearance and low cost . . .

Plan Your Feed Formulae with—

DEHYCO-10

Finer Processed Corncob Meal for Greater Profits to Feed Manufacturers—

DEHYCO-10, specifically processed to eliminate the regrinding and reprocessing usually required in using other similar ingredients, enables the Pellet Manufacturer to produce feeds at the lowest possible cost — with improved appearance of his finished product — greater power of molasses absorption to exceed 50%— —more nutrition per pound of ingredient! DEHYCO products, too, are sold at a constant price throughout the feeding season, assuring the Manufacturer a minimum risk on deferred-booking contracts.

COMPARE THESE PROVEN FEEDING VALUES:

Since prepared corncobs have 60% the net-energy feeding value of corn grain, comparative figures below will show relative content of various products, in feeding value and in net-energy therms per 100 lbs.

	Relative Feeding Value	Net Energy Therms per 100 Lbs.
Corn	100	80.1
Barley	94	75.3
Oats	83	66.1
Corncobs	60	48.0
Alfalfa Hay (Good)	60	48.0
Timothy Hay (Mature)	51	40.8
Mixed Screenings	59	47.3
Cottonseed Hull	53	41.6
Oat Hulls	46	36.9

DEHYCO and DEHYCO-10 Assure Manufacturers!

The exclusive process by which DEHYCO-10 is produced affords the Feed Mixer these specific, EXTRA advantages, particularly in the manufacture of pellets:

1. Increased absorbency: 50% or better.
2. Increased N.F.E. content.
3. Decreased fiber content.
4. Uniformity of particle size.
5. More uniform test weight.
6. Eliminates reprocessing and extra handling costs.

CALL US FOR PRICES DELIVERED YOUR POINT in Bulk or in 50-lb. Papers

NEW DEHYCO-10 SCREENS:

100 % through 10-mesh screen
35 % Retention on 20-mesh screen
22½% Retention on 30-mesh screen
20 % Retention on 40-mesh screen
22½% through 40-mesh screen

PHONE: Victor 1196

JOHN J. CLAY
Sales Co., Inc.,
BOARD OF TRADE, KANSAS CITY, MO.

What's New in Feeding

Putting Feed Research to Work

Foundation Laid for Future Advances in Animal and Poultry Nutrition

It has been said that more progress was made in livestock feeding during the last 25 years than had been made in all prior years. The question of whether this is true or not is probably open to debate. At any rate, we do know that the feed manufacturing industry has grown from an infant to a giant during the last quarter century.

Nutritional research and the application of this research to practical animal and poultry feeding were probably the major factors permitting the feed industry to attain its present stature.

Let's take a look at some of the past nutritional accomplishments and try to see just how they can be used to advantage in the future.

Vitamins

In the past, most nutritional factors were supplied in the ration from natural crude sources. For example, 30 years ago most formulas for critical animals (poultry, swine, calves and dogs), contained relatively high levels of dried skim milk or dried buttermilk. Why? Among other reasons, it was the primary source of the then unidentified B vitamin, riboflavin.

Today we know that dried skim milk contains about 10 mg. of riboflavin per pound. If dried skim milk were the only source of riboflavin, it would have to make up about 50% of the chick starting feed to meet the chick's present day needs for this vitamin. As with most other nutrients, upon discovery of riboflavin, nutritionists started looking for more concentrated sources. The chemists worked in their laboratories to synthesize it.

Now we have two highly concentrated sources of riboflavin, (1) certain fermentation products and (2) synthetic riboflavin. The first source must be classified as a natural source even though it is controlled to a large degree by man, while the second source is a man made vitamin.

Just what have these riboflavin developments meant to the feeder and the feed industry? If milk were purchased only for its riboflavin content (which it certainly never has been as it supplies many other nutrients), 1 gram of riboflavin would cost about $12.00 at current dried skim milk prices. Today riboflavin can be purchased for approximately 6 to 8¢ per gram. Thus, we see that by learning everything possible about one nutrient—its occurrence, chemical and physical properties and its requirement by livestock—its cost to the feeder has been reduced many fold.

This same story can be told for practically all of the vitamins now added to our feeds. Originally vitamins A and D were supplied by cod liver oil; now we have highly concentrated vitamin A oils or synthetic vitamin A, both being stabilized, and vitamin D comes in potencies up to 300,000 units per pound. Vitamin B_{12} originally was supplied by animal and marine products, but today it is supplied from fermentation products in potencies up to 80% pure. These are only a few examples, but, as noted above, the same story can be told for many of the vitamins.

What effect does this have on future trends in nutrition? Today we have unidentified growth and reproduction factors in various feed ingredients, such as fish solubles, dried whey, dehydrated alfalfa meal, dried distillers solubles and dried liver meal. It is the job of the nutritionist and the chemist to study these factors and take them through the same process that riboflavin has already gone through.

It is also in the future that other nutrients, which are still completely unknown, will be discovered, identified and added to livestock feed so that more efficient and profitable feeding will be possible.

Much research work has been done on protein and its components, the amino acids. The great strides made in improving the protein quality of the soybean through scientific processing have contributed substantially to better feeding and the growth of

A. E. BAXTER ENGINEERING CO.
Designers and Engineers for Mills, Elevators and Feed Mills
900 ELECTRIC BUILDING BUFFALO 3, NEW YORK

MOST PELLETS ARE PRODUCED ON CALIFORNIA PELLET MILLS
CPM

PROVED ON-THE-FARM
VICTOR FEEDS

Biggest campaign tells millions of STONEMO's

Keep gizzards grinding! Get more eggs and meat!

Feed STONEMO Granite GRIT

Yes, the biggest campaign in all Stonemo history is starting now—telling thousands and thousands more customers and prospects than ever before about the value of Stonemo's extra grinding surfaces.

We have stepped up this schedule to 51 million impressions as our way of saying "thanks" for the wonderful job you dealers and distributors are doing in stepping up sales of America's most popular poultry grit.

Use the theme shown above to tie in with the new giant Stonemo campaign. Newspaper mats are now available—decals are now ready. So get these sales helps, take advantage. Use every sales tool we can give you to make your store Stonemo headquarters.

STONEMO — The Grit with the

the feed industry. Continued improvement can and probably will be made in this protein supplement as well as other protein concentrates.

Even greater advances will probably be made in protein nutrition through supplementing natural proteins with synthetic amino acids so that the amino acid balance in the feed meets more nearly the animal's requirements. Already methionine is being added to feeds. There is some indication that lysine will also be available in the foreseeable future. Undoubtedly other amino acids will become available when the need for them becomes great enough.

With modern nutritional developments come new problems. For example, for years the amount of total digestible nutrients in a feed has been used to evaluate it for livestock feeding. Now we find that by feeding the rumen microorganisms, the digestibility of some roughage has been raised considerably. Corn silage, when properly supplemented, produces gains in cattle comparable to those obtained from a high shelled or ground corn ration. Yet corn silage is supposed to contain only about 75% as much total digestible nutrients as shelled corn on an equivalent moisture basis.

What does this mean? It appears that if total digestible nutrients are going to be used as a criterion of the feeding value of a feed, then these values will have to be redetermined in line with present nutritional information. This is certainly a big job and could keep several scientists busy for years to come.

Another example of new problems created by nutritional advancement is that of adding inedible animal fats to animal and poultry feeds. First the fats has to be stabilized against rancidity. Next, there is the situation in which the energy is greatly increased. If full advantage is to be obtained from the added fat, other nutrients must be increased. Just how much remains to be determined.

High Energy Era

At the present time we are entering into the high energy era. True, we have been leading up to this point for the past few years; however, the most active research in the immediate future will probably be dealing with ways and means of increasing the energy content of feeds and fortifying these high energy feeds to obtain optimum performance from them.

For one thing, it appears that the protein content should be based on the energy content of the ration. Actually, this is not entirely new since even 25 years ago nutritionists were talking about nutritive ratios—the ratio of digestible protein to energy.

In future animal and poultry nutritional endeavors, we may be able to build on nutritional findings with laboratory and other unrelated animals. An example of this is that urinary calculi have been a problem in feeder cattle, sheep and mink. To date no satisfactory preventive has been found for sheep and cattle, but its incidence has been lowered materially in mink by the feeding of small amounts of ammonium chloride. Possibly urinary calculi can be controlled in cattle and sheep by the same means or by following the same general principle involved. Here is a foundation already laid for future research.

It is estimated that we will have about a 25% increase in our population in the next 20 years. This great increase has caused some concern as to just how we are going to feed these additional persons. Actually, if the same progress in livestock feeding is made in the next 20 years as has been made in the past 20 years, the increase in feeding efficiency will permit us to produce just as much meat, milk, and eggs per person in 1975 with the same amount of feed which is available today.

Almost everyone will agree that nutritionists in the past have made sensational progress, but we will have to admit that it is only the foundation for future nutritional advances.

Step Up Feed Efficiency SAFELY!
PRO-GEN
ARSANILIC ACID ADDITIVE
Abbott
WRITE – WIRE – PHONE
ABBOTT LABORATORIES Chemical Sales Division
NORTH CHICAGO, ILLINOIS

in STONEMO history
poultry growers about
EXTRA GRINDING SURFACES

First we told millions, then more millions, now this year *added* millions about Stonemo – the grit with the "extra grinding surfaces."

The theme: – "Keep gizzards grinding! Get more eggs and meat! Feed Stonemo Granite Grit!" So tell this story in your advertising. Tell it when your customers come in to order feed or supplies.

Is the new Stomeno story *appropriate*? Yessir! Stonemo's "extra grinding surfaces" help keep gizzards and digestive systems working efficiently throughout the growing cycle – help grind out more eggs and meat per pound of feed.

Is it *effective*? Yes! Especially when you tie-in with free Stonemo dealer-helps – banners, displays, decals, newspaper mats. If your supply is low, write for more, they're free.

Will it be *profitable*? You be the judge! Every Stonemo advertisement directs customers to *your* store, helps step-up Stonemo sales, and increase your store traffic.

Tie-in now with the biggest campaign in Stonemo history! Turn demand into dollars! Display Stonemo. Talk about Stonemo. Sell Stonemo with every feed order!

And send in your order now for a good supply of 25, 50, and 80-lb. bags of Stonemo Granite Grit, along with fast-selling, handy Hopper-Pak self-feeders. Do it today!

Here are the magazines that carry the story!

Farm Journal
Country Gentleman (now "Better Farming")
Successful Farming
Capper's Farmer
New England Homestead
Pennsylvania Farmer
The Ohio Farmer
Michigan Farmer
Missouri Ruralist
Kansas Farmer
Prairie Farmer
The Farmer
Wallace's Farmer & Iowa Homestead
The Nebraska Farmer
Wisconsin Agriculturist & Farmer
Rural Grovure
American Poultry Journal
Poultry Tribune
Everybody's Poultry Magazine
Broiler Growing
Eastern Breeder & Broiler Grower
Broiler Journal
Southeastern & Virginia Poultryman
Turkey World
The Turbogram
Canadian Poultry Review
The Poultryman
The Georgia Poultry Times

Medium-size Stonemo Granite Grit Magnified 10 Times

10-lb. Hopper-Pak Self-Feeder

STONE MOUNTAIN GRIT COMPANY, INC.
Lithonia, Georgia

"EXTRA GRINDING SURFACES"

McCabe Grain Company Limited
WINNIPEG, CANADA
LONDON, ENGLAND VANCOUVER

McCABE GRAIN
LONDON OFFICES
Schwarz & Co. (Grain) Ltd.
Victoria Products and Grain
(Overseas Agents) Ltd.

2½c MEDICATES A 50 LB. BAG OF YOUR FEED AGAINST
COCCIDIOSIS with Arzene
Lee
FOR TEST RESULTS, PRICES, INFORMATION
Write GEO. H. LEE CO. Omaha, Nebr.

THAT GOOD
UNIFORM
MEDO GREEN ALFALFA
BREMCO
ALFALFA MILLS, Inc.
NEW BREMEN, OHIO
PHONE—35 & 25

Preparation of Nutrient Requirements For Domestic Animals

By Dr. L. C. Norris

Chairman, Committee on Animal Nutrition
National Research Council

EDITOR'S NOTE: To be useful, all of the vast amount of research on nutrient requirements for poultry and livestock must be brought together in readily available form. The principal work in developing data on the nutrient requirements of domestic animals has been done by the Committee on Animal Nutrition of the National Research Council. This and other work in bringing nutritional requirement data into such form as cannot be easily overlooked is just as important as the development of the data, many nutritionists point out. In the accompanying article, Dr. L. C. Norris of Cornell University, chairman of the Committee on Animal Nutrition, describes the organization and work of the committee.

♥ ♥

At the time of our entry into World War II, up to date feeding standards covering the available knowledge of the nutritive requirements of the various types of domestic animals were not obtainable. As a consequence, animal nutritionists, feed manufacturers and livestock feeders were unable to formulate rations for farm animals of the highest possible efficiency at a time when the need for livestock products was great and our supply of feedstuffs critical. In an effort to relieve this situation, the Committee on Animal Nutrition of the National Research Council early in the recent war initiated the development of standards giving the nutrient requirements for domestic animals.

The preparation of the nutrient requirements for domestic animals was the major activity of the committee during the war, and the further development of these requirements has been its major activity since that time. The development of the nutrient requirements of the various types of domestic animals is carried out by means of subcommittees of the Committee on Animal Nutrition and published as reports of the National Research Council.

At the present time the committee has subcommittees representing 10 different species and types of domestic animals. These are beef cattle, dairy cattle, dogs, fur-bearers, horses, laboratory animals, poultry, rabbits, sheep and swine.

Reports giving the nutrient requirements for all of these animals have been published, except for laboratory animals. This report is in preparation. Original reports giving the nutrient requirements for fur-bearers, dogs, and rabbits were published in 1953 and 1954, and revisions of earlier reports giving the nutrient requirements for swine and poultry were published in 1953 and 1954. Preparations are being made to revise

DIAMOND V BRAND

Fortify your feeds with

LIVE YEAST CULTURE

(Especially Prepared for Dry Mix Feeding)

Supplies: *Vitamin B12 activity*, live yeast digestive enzymes, B complex vitamins, *plus* othe. factors. Improves appetite, digestion (including rumen aid), health, growth, production. Increases feed utilization—lowers feed cost.

Live yeast values improve feeding results in recent State conducted tests.

write . . . DIAMOND V MILLS, INC. • CEDAR RAPIDS, IOWA

RYDE'S

CALF FEEDS

All-Ways { Uniform, Dependable, Economical }

RYDE'S

Cream Calf Meal

for gruel feeding

with

AUREOMYCIN ANTIBIOTIC and extra Vitamin A Strength

RYDE'S

Cream Calf Flakes

(or Pellets)

for dry feeding

with

AUREOMYCIN ANTIBIOTIC and extra Vitamin A Strength

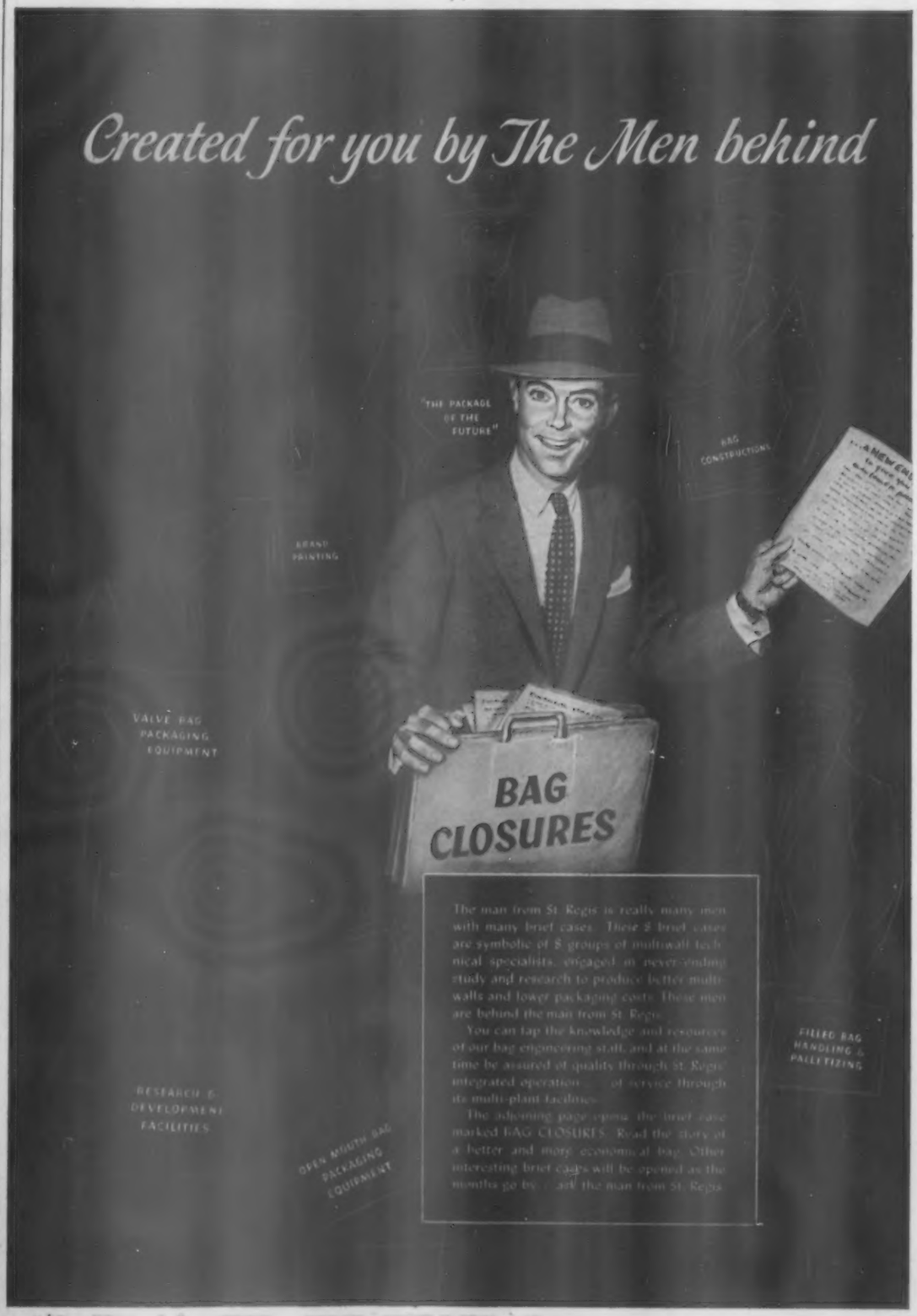
Direct Mail Dealer Help

Consistently Advertised

SOLD ONLY THROUGH RELIABLE DEALERS

RYDE & CO.

5425 W. Roosevelt Rd., Chicago, Ill.


Created for you by The Men behind
"THE PACKAGE OF THE FUTURE"
BAG CONSTRUCTION
BRAND PRINTING
VALVE BAG PACKAGING EQUIPMENT
BAG CLOSURES
RESEARCH & DEVELOPMENT FACILITIES
OPEN MOUTH BAG PACKAGING EQUIPMENT
FILLED BAG HANDLING & PALLETIZING
The man from St. Regis is really many men with many brief cases. These 8 brief cases are symbolic of 8 groups of multiwall technical specialists engaged in never-ending study and research to produce better multiwalls and lower packaging costs. These men are behind the man from St. Regis.
You can tap the knowledge and resources of our bag engineering staff, and at the same time be assured of quality through St. Regis integrated operation . . . of service through its multi-plant facilities.
The adjoining page opens the brief case marked BAG CLOSURES. Read the story of a better and more economical bag. Other interesting brief cases will be opened as the months go by . . . and the man from St. Regis

the nutrient requirements for beef, dairy cattle and sheep.

Each subcommittee is for the most part composed of five members. The members are selected on the basis of capacity, advanced training in animal nutrition, and experience in research work on the nutrition of the type of domestic animal represented by the subcommittee. Institutional connection is not a condition for membership on the subcommittees. Although most of the members must obviously be obtained from the staffs of the agricultural colleges and experiment stations of the U.S. and Canada, several of the subcommittees have members selected from the research staffs of feed manufacturers.

The reports of the subcommittees are reviewed by the members of the Committee on Animal Nutrition and revised in accordance with suggestions made by them before publication. Thus, the nutrient standards are developed by group action. This method of arriving at the requirements is a better one than that of depending on the views of only one man, no matter how able and experienced he may be. The standards which have been developed are believed, therefore, to possess the highest degree of reliability, considering the available knowledge.

The nutrient requirements for domestic animals differ from the older type of feeding standards in that they include requirements for vitamins and minerals wherever sufficient information is available as well as requirements for protein and total digestible nutrients or energy. In the poultry and swine reports, the available information on amino acid requirements is also given.

Basis for Requirements

The requirements are based for the most part on published experimental results of the nutrient requirements of domestic animals. In some instances, the available evidence is of such a character that unanimity of opinion concerning actual requirements cannot be obtained. In these cases, the requirements may represent a compromise. The requirements are revised whenever there is sufficient new experimental evidence to make this necessary.

As far as the Committee on Animal Nutrition can determine, the nutrient requirements for domestic animals have been generally accepted as being the best guides available for use in formulating rations for farm animals and other domestic animals. They appear to be widely used both in the U.S. and Canada. Their general acceptance has greatly encouraged the Committee on Animal Nutrition and its subcommittees in the work now being done for the further development of the requirements.

In addition to the reports giving the nutrient requirements of domestic animals, the committee from time to time appoints other subcommittees to prepare reports on special problems in animal nutrition pertinent to the times. Reports which have been published during the past few years are "Comparative Nutrition of Farm Animals" (1951) and "Hormonal Re-

Robert Christiansen Dan Crowle

TWO PROMOTED — **The promotion of Dan Crowle and Robert Christiansen to positions as warehouse sales representatives at the Central Soya Co. & McMillen Feed Mills new East St. Louis, Ill., distribution center has been announced by Dale W. McMillen, Jr., president of the company, Ft. Wayne, Ind. Mr. Crowle has been associated with the firm since 1952, and Mr. Christiansen joined the company in 1951. Both men are experienced in distribution and feed sales work.**

DEHYDRATED ALFALFA MEAL

MILLER ALFALFA CO.

Main Office: DEFIANCE, OHIO, Phone 22910—51211

Plants at DEFIANCE, OHIO BEARDSTOWN, ILL. SEELEY, CALIF.

...The Man from St. Regis

...a NEW END CLOSURE

to give you a better bag and lower packaging costs!

THIS new closure combines Rayon Thread and Flat Tape . . . to reduce your per-thousand bag cost.

In cooperation with leading rayon manufacturers, St. Regis has perfected several threads for use with standard bag sewing equipment. The new thread, coupled with the development of Flat Tape by St. Regis, creates a totally new type of closure.

STRONGER CLOSURE

This development combines the greater strength of Rayon Thread with Flat Tape, which can be completely bonded to the multiwall bag. Rayon Thread has high tensile strength, stretch, and shock resistance. It resists the corrosive action of chemicals, and withstands relatively high packing temperatures.

UNIFORM PROPERTIES

Rayon, like the paper of multiwalls, is produced from cellulose fibers. Therefore, like the multiwall, its qualities can be closely controlled and predicted. Microscopic analysis of the fibers demonstrates this uniformity and control.

BETTER LOOKING

This method of closure gives your package a new look—increases its advertising values. Flat Tape, matching in color and texture the body of the bag, offers an excellent printing surface. And tougher, stronger Rayon Thread can be sewn with finer needles, leaving smaller needle holes.

MORE ECONOMICAL

Rayon's greater tensile strength increases mileage, gives more closures per pound. Smaller needle holes with rayon mean less siftage. With Flat Tape and Rayon Thread you get a better closure, a better package at a lower cost.

Ask the man from St. Regis about the new St. Regis end closure. Call your nearest St. Regis office or write:

MULTIWALL PACKAGING DIVISION

ST. REGIS PAPER COMPANY

Sales Subsidiary— St. Regis Sales Corporation

230 Park Avenue, New York 17, N. Y.

You Can Count On

CALCIUM CARBONATE COMPANY — TRIPLE CCC QUALITY — PRODUCTS

- Leadership Research
- Quality Control
- Outstanding Facilities
- Quick Service

Trace Mineral Premixes . . . Iodized-Manganesed Calcium (any desired level) . . . Manganesed Calcium (any desired level) . . . Electro (free-flowing) Calcium . . . Pellet Machine Calcium . . . Regular (plain) Calcium . . . Dustless (plain) Calcium . . . Shoolmaker Calcium Grit . . . Farm-Cal (Barnlime)

Write—Wire—Phone

Calcium Carbonate Co.

CHICAGO 6, ILL. 222 W. Adams CARTHAGE, MO. Box 409 OMAHA, NEBRASKA 325 W.O.W. Bldg.

"BRODLEAF"

HOLLAND PEAT MOSS

HALF MOON MFG. & TRADING CO., Inc.

80 West Street New York 6, N. Y.

lationships and Applications in the Production of Meat, Milk and Eggs" (1953). Reports are in preparation on the fluoride problem in livestock production and the use of antibiotics, arsenicals, sulfonamides, etc., in livestock feeds. The subcommittee in the latter case is attempting to determine the extent to which these materials may be used without harmful effects.

The Committee on Animal Nutrition is one of the committees of the Agricultural Board of the Division of Biology and Agriculture of the National Research Council. The work of the Agricultural Board and its various committees represents only a portion of the many activities of the National Research Council. The Agricultural Board receives a part of its financial support from the industry members of the Agricultural Research Institute of the National Research Council. Several feed manufacturers have become supporting members of the Institute.

The National Research Council was organized in 1916 by the National Academy of Science at the request of President Woodrow Wilson in order that the Academy might have an actively functioning organization during World War I. As the work of the National Research Council progressed, it became evident that it might be a useful peacetime organization.

In recognition of this, President Wilson, in an executive order dated May 11, 1918, requested the National Academy of Science to perpetuate the National Research Council. The order specified in part that the duties of the council are "to stimulate research in the mathematical, physical and biological sciences and in the application of these sciences to engineering, agriculture, medicine and other useful arts, with the object of increasing knowledge, of strengthening the national defense, and of contributing in other ways to the public welfare."

The National Research Council is a cooperative organization of the scientific men of America. It is supported by the major scientific and technical societies of the country, and its membership is composed largely of representatives of about 85 of these societies. Some of the societies which support the work of the Agricultural Board of the Council and its Committee an Animal Nutrition are the American Society of Biological Chemists, The American Institute of Nutrition, The American Society of Animal Production, the American Dairy Science Association, the Poultry Science Association and the American Veterinary Medical Association.

The history of the Committee on Animal Nutrition of the National Research Council goes back to World War I. Between this war and World War II the activities of the committee were limited for the most part to the preparation of a number of special reports of interest to animal nutritionists.

At the beginning of World War II the committee became more active as it was realized that it could serve a useful purpose as a coordinating agency in the field of animal nutrition and its application to livestock feeding. It is continuing to work along these lines with the assistance of approximately 70 specialists in the field of animal nutrition. They are carrying on this work in addition to their regular duties and without compensation except the satisfaction derived from performing a needed service.

THEY EVEN USED SPIES

The sales manager was worried. That new feed the competitor was putting out was really selling. He called in the plant manager to find out whether they could make the same type of feed. The plant manager, however, didn't know how the competitor's new process worked. What to do? They had to find out how that feed was made. Finally, management decided to go right to the spot. They secretly sent one of their production supervisors to the competitor's plant in the other town, and there he got a job as a laborer in the mill so that he could see how that feed was being made.

That incident took place 30 years or so ago. Today, the plant manager would get on the phone and call the competitor, and he'd be invited to come and see how some new equipment was operating. It's all part of the remarkable development of mutual industry cooperation and exchange of information of all kinds among members of the industry. Examples of this are found in such things as the Midwest Feed Production School and the many scientific meetings.

Trial Shows High-Level Antibiotic Feeding May Stimulate Runt Pigs

LAFAYETTE, IND.—Results of a feeding trial conducted recently at Purdue University indicate that high-level feeding of antibiotics may stimulate rate of gain of "tail-enders" or runt pigs.

That report on the trial conducted by J. H. Conrad and Dr. W. M. Beeson, animal husbandry department, was made by Mr. Conrad.

He says that the greatest advantage of high-level antibiotic feeding has been obtained during periods of stress. This stress may be due to undesirable microorganisms which impair the health of the animal, or it may be due to improper feeding and management practices during certain critical periods in the animal's life.

"Tail-end" pigs are animals which do not gain normally when fed according to generally accepted feeding practices. In the experiment, 40 tail-end pigs, averaging 30 lb. at 9-10 weeks of age as compared to 45 lb. for their littermates, were divided into four groups of 10 pigs each. Prior to the start of this 42-day trial, all pigs had received a well-balanced ration containing 20 milligrams of antibiotics per pound of feed.

Lot one was fed a well-balanced ration containing no antibiotic. Lots two, three and four received basically the same ration plus antibiotic. Lot two received 15 grams, lot three 50 grams and lot four 100 grams aureomycin per ton of feed.

Results of this trial indicate that usual levels of antibiotic feeding may be too low to produce a significant growth response when fed to tail-end pigs. However, when slow gaining pigs were fed high levels of antibiotic on this trial (50 or 100 grams per ton) they gained significantly faster than those fed no antibiotics or usual levels of antibiotics.

Put your Shipping Sack on your Sales Team

....with attractively designed brands and brilliant multi color printing by HAMMOND

Outstanding in appearance and durability . . . Hammond Multi-Wall bags create enthusiasm and pride among your sales representatives . . . help to increase sales through distributors and dealers . . . build prestige for your company and products, and provide complete protection of contents from packing machines to the ultimate consumer. Yes, you can put your shipping sack on your sales team by specifying Hammond Multi-Walls.

For Multi-Wall Bags,
"Make it a Habit to Depend on Hammond"

HAMMOND BAG & PAPER COMPANY
General Offices: Wellsburg, W.Va.
Plants in Wellsburg, W.Va., Pine Bluff, Ark. and Charlotte, N.C.
Representatives in the following cities: NEW YORK, N. Y., CHICAGO, ILL., MINNEAPOLIS, MINN., KANSAS CITY, MO., CLEVELAND, OHIO, ATLANTA, GA., WASHINGTON, D.C., DALLAS, TEXAS, CHARLOTTE, N. C., LIGONIER, PA., BLUEFIELD, VA.

Hammond Betterbags
Hammond Multi-Walls
"TREES ARE A CROP"

CDP
CORONET DEFLUORINATED PHOSPHATE

"I've made the HALL OF FAME!"

Read how

"I'm working for YOU!" *says the* PIG OF THE YEAR

"FIRST I APPEAR IN ADVERTISEMENTS...

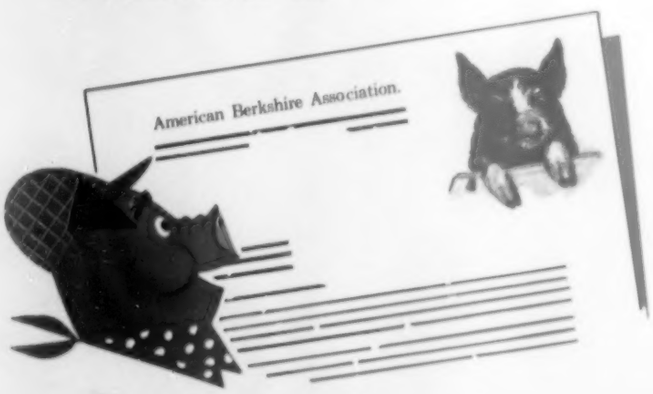
in all the national farm papers and in special papers throughout the Corn Belt country. Millions of farmers see me and read about AUREOMYCIN* Chlortetracycline, the antibiotic which makes me a *profit* pig."

"I'M REALLY ROLLING NOW!

People everywhere recognize me on sight, saying: 'There's that handsome AUREOMYCIN pig!' Here I am in our new MERCHANDISING FOLDER. You got yours, didn't you? This folder tells all the *many* ways AUREOMYCIN and THE AMERICAN CYANAMID COMPANY help feed manufacturers make more money by selling more feed for me and millions like me!"

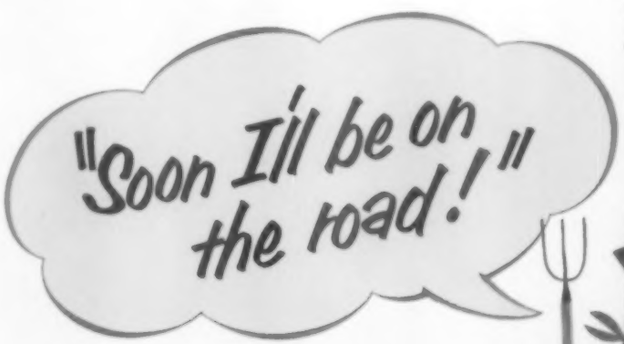
"I'M ON THE FEED BAG!

Some of the feed manufacturers like my picture so well, they've asked to use it on their own feed bags! That means I'm going right out to the farm—the AUREOMYCIN pig *on* a feed bag that's got AUREOMYCIN *in* it to make more profits for hog raisers!"



"I'M ON A LETTERHEAD AND A MAGAZINE COVER!

Here's a letter from the American Berkshire Association. They say: 'We personally think that this is the cutest (!) picture of a Berkshire that we have ever seen. Could we borrow it for use on a new letterhead for this association and for our August magazine cover?' The answer is YES – and thanks for the honor! (By the way, AUREOMYCIN is just as good for Durocs, Hampshires, Poland Chinas, Chester Whites and all the others.)"



"This is my latest—and farmers will see me a mile away! These big, 24-sheet posters on the roadside ought to really bring 'em in to see YOU! Now, turn to the back page to see what my future plans are . . ."

*Trade-mark

"THEN I SHOW UP ON A POSTER...

a big, cardboard poster. Feed manufacturers can have the name of their company or hog feed, their mill or trademark, printed right on the top of the poster free of charge! At last count, you had ordered tens of thousands of these posters and had them up in mills and feed stores all over the country!"

"NEXT I'M ON A LEAFLET...

called 'Help Prevent Scours'. (Nothing does *that* so well as AUREOMYCIN!) Once more, feed manufacturers can have these leaflets imprinted with their own message without charge. Well, fellows, up to the time we went to press, you had ordered several hundred thousand of these leaflets to send to your farmer friends."

"Where do I go from here?"

"My feed manufacturer friends say this year's AUREOMYCIN advertising has been the biggest SALES BOOSTER they've ever had. We expect to keep it going...There are plans under way for a special promotion campaign timed to break just when farmers are starting their fall crop of pigs.

My brother and sister pigs are slated to get the finest care ever given to a new bunch of pigs..."

"You'll be seeing me!"

Cyanamid Fine Chemicals

AMERICAN Cyanamid COMPANY
FINE CHEMICALS DIVISION
30 ROCKEFELLER PLAZA, NEW YORK 20, N. Y.

LET YOUR CUSTOMERS BE SURE WITH THE MOST EFFECTIVE ANTIBIOTIC

AUREOMYCIN

CHLORTETRACYCLINE

BETTER FOODS *from* BETTER FEEDS

A SUMMARY
OF THE CONTRIBUTION OF
FORMULA FEEDS TO MORE
EFFICIENT AND PROFITABLE
AGRICULTURE

Copyright 1958 PRODUCERS

A PROGRESS REPORT on ANIMAL AGRICULTURE

You Measure It in Millions

It's an amazing story—this story of the growth and progress of animal agriculture.

It's a story of tremendous increases in production, of almost unbelievable improvements in efficiency of production, of opportunity unlimited in the future.

It's a story of progress that can be measured only in millions and billions—billions of pounds, billions of dozens, millions of animals, millions of persons to feed and millions and billions of dollars.

When you get down to individual farmers, it also takes a mighty big yardstick to measure the profit-making progress that has been made.

Behind it all is the fact that more people are each eating more meat, milk and eggs. And, through remarkable advances in breeding and feeding and management, producers can turn out the additional animal and poultry products far more efficiently and economically than they could 25 years ago.

For farmers, the progress has meant big reductions in the amount of labor and feed required to produce a given product. This has been reflected in greater income for the producers, reasonable prices for consumers and an expanding market for animal agriculture.

What's more, the market promises to continue to expand, and there is still a lot of room for further improvement in the efficiency of production.

Playing a vitally important part in all of this progress have been scientifically formulated feeds. As animal nutrition knowledge has advanced dramatically, feed men have put more and more nutrition, more and more growing and producing power into every bag of manufactured feed.

The farming trend . . .

The improvement in feeds has contributed to a trend from crop farming to livestock and poultry production which is readily apparent.

BACK IN THE early 1920's, livestock and livestock products accounted for about half of farmers' total cash receipts.

IN RECENT YEARS, animal agriculture's share has been close to 60%.

The U.S. population, now approaching 165 million, has increased 33% since 1930. But production of livestock and poultry products has boomed upward by 53% as consumers have spent more of their food dollars for better foods—more and higher quality meat, milk and eggs.

For example:

RED MEAT production in 1954 totaled 25.4 billion pounds—up almost 9 billion pounds, or 59% from 1930. Chicken meat production more than doubled, reaching 3.9 billion pounds. Turkey meat output, at 790 million pounds, was more than four times larger than in 1930. The nation's laying flock in 1954 produced 5½ billion dozen eggs, up 67% from 1930. Milk production rose almost 25%.

CONTRIBUTING to the big gains, in addition to the mushrooming population growth, were increases in per capita consumption of most of the products. Each person in 1954 was eating 26% more eggs than he was in 1930. Per capita consumption of chicken meat rose 53%; turkey meat, 200%; red meat, 36%; cheese 70%; ice cream, 100%.

Less labor . . .

Through outstanding gains in efficiency of production, the huge increases in animal and poultry products output were accomplished by fewer farm workers on fewer farms working fewer hours, but earning larger incomes.

THE FARM population in 1930 was 30.5 million, 25% of the total population. In 1954, it was down to 21.9 million, only 13⅛% of the total.

THE NUMBER of workers on farms in 1954—8.5 million—was down 32% from 1930. Twenty-five years ago, each farm worker produced enough for himself and nine other persons; now he produces enough for himself and 18 others.

There has been some real improvement in the efficiency of crop production, but a big share of the gain in farming efficiency also may be found in animal agriculture.

Reductions in the amount of time and labor needed to produce animal and poultry products are clearly seen in figures like these: For each man-hour worked, production of all livestock and livestock products was 51% higher in 1954 than it was in 1953. For meat animals, the gain in production man-hour was 17%; for milk, 51%; for poultry, 73%.

The labor savings result in part from the fact that animals and poultry are now growing and producing at rates that would have been considered fantastic as recently as 20 or 25 years ago.

Feed savings . . .

On top of the labor savings have come the tremendous reductions in the amount of feed required to do a given job.

THE AMOUNT of feed needed to raise a broiler has been almost cut in half. It now takes about 2½ lb. less feed to produce a dozen eggs than it did in 1930. To grow and fatten a hog from weaning to market, it takes around 200 lb. less feed than it did 25 years ago. Also, feed is being used more efficiently in milk and beef production.

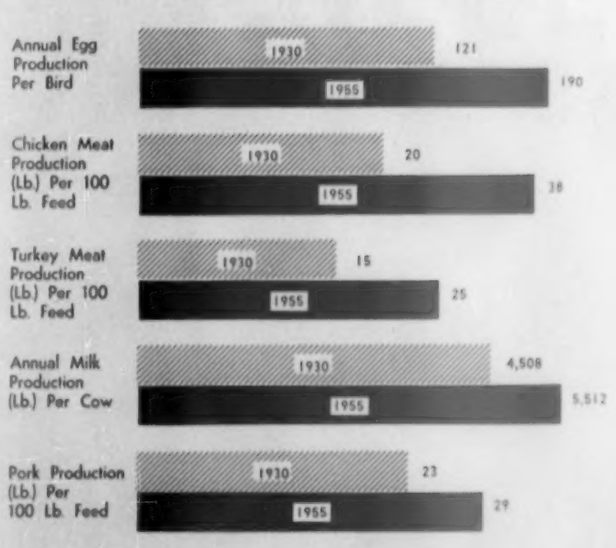
ALL OF THIS progress has reduced by millions of tons the amount of feed required for a year's production of animal and poultry products in the volume now being turned out. If the far greater numbers of animals and poultry we now have were still growing and producing at 1930 rates, the feed costs would be millions of dollars higher than they are.

Research . . .

Breeders and animal nutrition scientists have shown how we can constantly increase the growth and improve production efficiency.

Tireless research workers in agricultural colleges and experiment stations have uncovered nutrition in-

INCREASES IN EFFICIENCY IN POULTRY AND LIVESTOCK INDUSTRIES



A PROGRESS REPORT to the AMERICAN FEEDER

THIS report is presented by the editors of Feedstuffs, weekly newspaper of the feed industry, to consolidate the facts and emphasize the tremendous progress made during the past 25 years or so toward a more efficient and profitable animal agriculture. It is a story of great interest and importance to the nation, representing millions of dollars in economies and profits to the farmers, and millions of pounds of food at reasonable prices to consumers.

More Meat, Milk and Eggs

Annual Production

(000's omitted)

	1930	1954	Needed in 1975*
Egg production, number of eggs	39,067,000	64,582,000	80,700,000
Broilers, number of birds .....(1934)	34,030	1,059,784	1,324,700
Turkeys, number of birds	17,419	63,636	79,500
Milk production, pounds	100,158,000	123,502,000	154,400,000
Cattle slaughtered, number of head .	12,056	25,993	32,500
Calves slaughtered, number of head .	7,761	13,376	16,700
Pig crop, number of head	74,135	92,494	115,600

*Based on expected 25% increase in U.S. population, with no allowance for changes in present per capita consumption of meat, milk and eggs.

formation that has been of tremendous importance in reducing labor and feed requirements per unit of product. They've opened the door to scientific knowledge that has been turned into dollar profits and savings for producers and consumers alike.

Without all of this important research, farmers could not have gotten the results that they are getting today. But the many dramatic research discoveries have had to be put to work in a form which could produce more meat, milk and eggs.

Putting it to work . . .

It's here that the formula feed industry has been of such valuable service to agriculture.

APPLYING ALL of the college and government research and adding some more of its own, the feed industry has put more nutrition in every bite of feed.

IT HAS MANUFACTURED comp'ete feeds which are doing a much more efficient job.

IT HAS MADE and distributed feeds which have helped farmers get more out of their home grown grains and roughage.

IT HAS ADVISED and helped feeders use feed more profitably.

IT HAS HELPED turn the greatly advanced nutrition knowledge into more dollars in feeders' pockets, more leisure time to enjoy more television sets.

When you consider that feed represents 60 to 80% of the total cost in livestock production, you realize how important efficiency in feed use really is.

And that has been the feed industry's goal—more efficient utilization of available feed supplies, not greater production of total feed supplies.

In fact, if researchers and the feed industry had not made the big strides that are now apparent, there probably would not be enough feed, particularly high protein feed, to produce the livestock and poultry products that are now being consumed.

Industry growth . . .

Evidence that the formula feed industry has been doing an effective job of helping achieve that end is seen in the growth and stature of the industry and its production.

Feed manufacturing is now the ninth largest manufacturing industry in the U.S., and it is the largest manufacturing industry serving agriculture. Its production has risen from 13 million tons in 1930 to 35 million in 1954. While it was supplying 13.9% of all concentrate feeds fed in 1930, it now supplies almost 30% of the grains and concentrates fed each year. Furthermore—and what is most important—each ton of the feed helps produce much more meat, milk and eggs than it did 25 years ago.

Formula feeds and the feed industry have become a basic part of animal agriculture—a necessity for efficient production of the animal and poultry products which the millions of consumers demand.

Looking ahead . . .

What of the future?

For the past 35 years, the cropland acreage in the U.S. has been practically stable, but we have met increased food needs by producing more per acre, per animal and per man-hour. Meanwhile, population continues to increase by more than 2 million persons per year, 7,000 persons per day. And by 1975, the same farm resources which we now use will have to produce food for more than 205 million persons.

We want to go on providing ourselves with a diet rich in animal products. For that reason, it is necessary that we have a progressive animal agriculture, constantly making more efficient use of available land resources, availab'e feed supplies.

A growing animal agriculture is the best answer to the immediate problem of consuming some of the excess grains. Over the long run, it can help conserve our land resources, furnishing a means of rebuilding the soil while at the same time producing more food. Already land taken out of crop production by government regulation is being put into more forage and production of more meat, milk and eggs.

More mouths to feed . . .

The population is expected to increase by 25% in the next 20 years. What will this mean in the way of more animal products just to keep people eating the same diet they now get?

We will require an animal slaughter of 10 million more cattle and calves, 20 million more hogs. We'll need another 6 million milk cows, or the annual rate of production per cow will have to go up 1,400 lb. Another 250 million broilers will be necessary. We'll have to have 90 million more layers, or each bird will have to contribute an additional 50 eggs to the egg basket each year.

Yes, the potential market for meat, milk and eggs is great. But animal agriculture can't afford to rest on its past accomplishments. These foods will still have competition from other foods. The consumer's dollar never goes as far as he would like, so the industry that produces most efficiently, most economically is the one that goes ahead.

For this reason as well as the fact that more food will have to be produced from the same amount of land, it's vitally important that efficiency of production continue to rise. Even now, the average farmer is not producing at rates which are clearly possible with improved breeding and greatly improved feeds.

The better feeds . . .

These improved feeds are in large measure the product of the nutrition advances of the past 25 or 30 years. For example, 25 years ago, only a few vitamins were recognized. Now there are at least 16 different isolated and identified vitamins plus a number of unidentified growth factors.

This greatly increased knowledge has meant that there must be improved, precision manufacture of precision feeds.

Meanwhile, scientists expect continued dramatic discoveries in animal nutrition, but perhaps the greatest improvements will come in a refinement of the information already available, along with more information on relationships between the many nutrients we now have, more information on how to put together even better balanced feeds.

Used in these feeds will be the most economical sources of energy and protein, supplemented with other nutrients and growth and production promoting materials, many of which may be supplied in synthetic form.

These feeds then will be used with better bred animals and under better management conditions.

Livestock and poultry farmers and the feed industry together face the challenge of producing more and better food more efficiently and more economically. There's little doubt that the feed industry will continue to be an important partner in this job, producing and distributing the continually improving feeds that will be necessary.

ACKNOWLEDGMENT

The editors of Feedstuffs wish to express appreciation for the great amount of help received in the preparation of this "Progress Report to the American Feeder." Much of the information on the following pages was provided by these persons:

POULTRY FEEDING—DR. H. R. BIRD, University of Wisconsin; DR. GEORGE M. BRIGGS, National Institutes of Health; PROF. E. W. CALLENBACH, Pennsylvania State University; DR. GERALD F. COMBS, University of Maryland; DR. J. R. COUCH, Texas A. & M. College; DR. E. L. JOHNSON, University of Minnesota; DR. JAMES McGINNIS, Washington State College; DR. L. C. NORRIS, Cornell University; DR. E. P. SINGSEN, University of Connecticut; PROF. ROLLIN H. THAYER, Oklahoma A. & M. College.

DAIRY AND BEEF—DR. W. M. BEESON, Purdue University; DR. WISE BURROUGHS, Iowa State College; DR. J. K. LOOSLI, Cornell University; DR. L. A. MOORE, U.S. Department of Agriculture; DR. T. W. PERRY, Purdue University; PROF. PAUL M. REAVES, Virginia Polytechnic Institute.

SWINE—DR. E. R. BARRICK, North Carolina State College; DR. DAMON CATRON, Iowa State College; DR. L. E. HANSON, University of Minnesota; DR. S. W. TERRILL, University of Illinois.

Ezra Taft Benson

From the —

DEPARTMENT OF AGRICULTURE
OFFICE OF THE SECRETARY
WASHINGTON

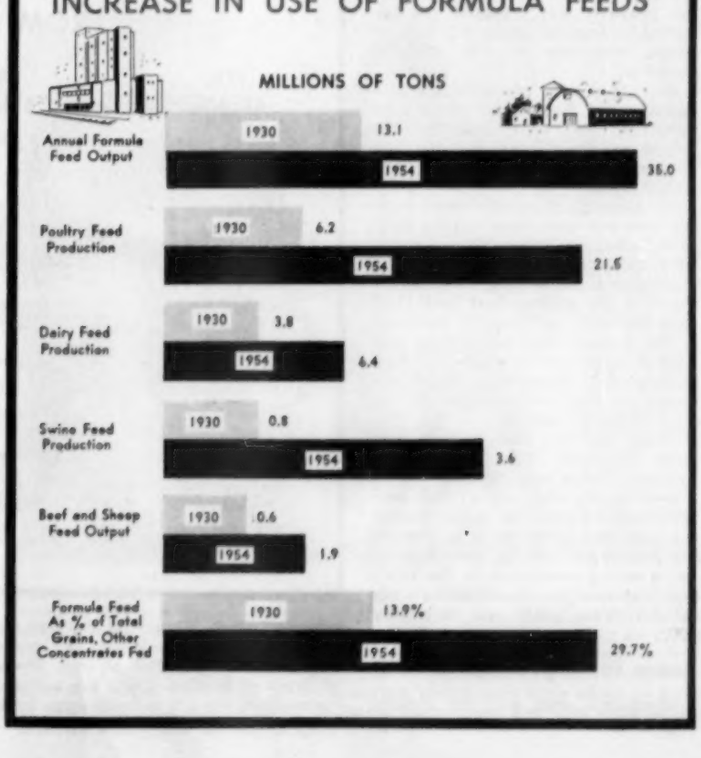
The feed manufacturing industry has come a long way in the last 25 years. From relatively modest beginnings, it has expanded so rapidly — particularly in the years since World War II — that I understand it now ranks with the top 10 manufacturing industries in the country.

This growth in size has been matched by a comparable growth in efficiency. The industry has supported constructive research, and it has used its manufacturing and distribution facilities to see that the end-results of this research reach the farm immediately.

Feed manufacturing has become a basic link in the vital chain of agricultural production.

The high degree of efficiency the feed industry has attained in its service to agriculture is a mark of the strength and vigor of American free enterprise. And the opportunities for continued service in the years ahead will be even greater than those of the past quarter century.

Ezra Taft Benson



A PROGRESS REPORT on LAYING FEEDS

Biddy Lays Another 69 Eggs

Egg production was up to 5⅛ billion dozen in 1954—67% larger than the 1930 total of 3¼ billion dozen. At the same time, the average number of layers on farms edged up only 10%—from 322 million in 1930 to 355 million in 1954.

The huge increase in egg production, with only a small rise in number of layers, shows clearly how the efficiency of egg production has increased greatly during the past 25 years.

Putting the improvement in other ways, we find:

THE 1930 RATE of lay, based on average number of layers on farms, was 121 eggs per layer. For 1955 it's expected to be 190—or 69 more eggs than in 1930.

FEED REQUIRED per dozen eggs was 7.8 lb. in 1930; for 1955, it's expected to be down close to 5.3 lb. Or, while a ton of feed would produce 3,200 eggs in the mid-1930's, it will now produce close to 4,500 eggs.

It takes good feed . . .

Poultry scientists agree that improvement in stock—better laying strains of chickens—is responsible for much of the remarkable gain in rate of lay. However, they point out, improved feeds have made a substantial contribution. Breeders can build more egg laying potential into a bird, but the producer won't realize the potential unless his hens get the required nutrients in the required amounts.

And, as college research has produced more knowledge of poultry nutrition, the feed industry has helped put the developments to profit-making use on farms through better feeds.

The tonnage of manufactured poultry feed has more than tripled since 1930, reaching 21.5 million tons in 1954. Of course, broiler and turkey feeds now account for a much bigger share of the poultry feed total than they did back in the 30's, but most of the formula feed for poultry still goes to layers and to chicks for flock replacement. Altogether, manufactured feed now accounts for 70% of all feed fed to poultry.

These improved feeds help produce more efficiently the much bigger number of eggs now required to feed a public more conscious of high protein, quality foods. The bigger market for eggs has come not only through the population growth; each individual is eating more eggs. In the 1930's per capita egg consumption was around 300 a year; now it is over 400.

Room for improvement . . .

Meanwhile, even with the striking improvement of the past in average egg production efficiency, there still is room for a lot more improvement. For example, researchers, using top laying stock and the best feeds, can get just about 6,000 eggs from a ton of feed, or a dozen eggs from 4 lb. of feed. What's more, many of the best commercial producers are approaching that efficiency.

There's no doubt that factors involved in breeding—things like the hen's weight and the potential rate of lay—are very important. Some figures will illustrate this. Most of the feed consumed by a layer goes for maintenance; a light layer requires less feed for maintenance (55-60 lb. a year for a 4-lb. hen); and it therefore can produce more eggs with a given amount of feed than a heavy layer. Rate of lay is important, too, and boosting egg production above a certain level doesn't take many added units of feed. A 4-lb. hen laying 12 dozen eggs a year will eat about 70 lb. of feed, or 5.8 lb. per dozen eggs; if she can lay 20 dozen eggs, she will eat only 10 more lb. of feed to do the job, for an efficiency of 4 lb. of feed per dozen eggs.

However, to produce more efficiently, the layer must be managed properly and must get additional nutrients in the required amounts. That's why better feeds have helped bring past improvements and why they are essential for potential future gains.

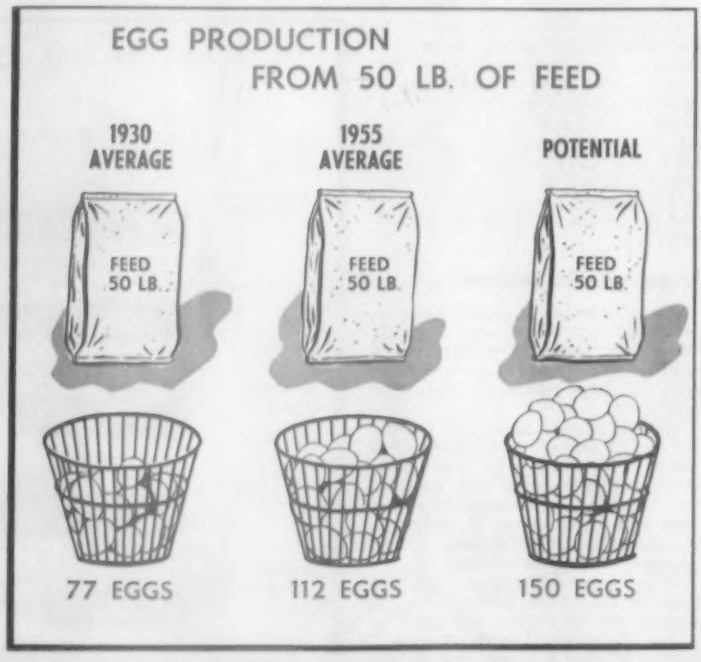
The incentive for better production is there. One college comparison put it this way: When annual production per layer is 154 eggs, the number of eggs above feed cost under certain conditions is 36. When production is 250, eggs above feed cost number 108.

Compare the feeds . . .

A comparison of laying mashes and their costs, between the early 1930's and the present, helps show progress made in feed.

A 1934 LAYING MASH contained: corn, oats, bran, middlings, alfalfa meal, meat scraps, dried milk, salt and cod liver oil. This was fed with whole grain.

FOR 1955 A TYPICAL MASH, to be fed with grain, contains: corn, middlings, dehydrated alfalfa meal, meat scrap, soybean meal, phosphorus, high calcium limestone, salt, manganese sulfate, vitamin A and D supplements, and riboflavin supplement, plus oyster shell and grit.



Improved feeds, along with the very important better laying stock, have made a substantial contribution to the increase in average rate of lay per bird and egg production per unit of feed. The averages cover all breeds of birds and all types of feeding. Using top laying strains of chickens and the best feeds, researchers can get a dozen eggs from about 4 lb. of feed, or 150 eggs from 50 lb.

Actually, however, it isn't just ingredient lists that produce results. Nutritionists and feed manufacturers now have a better knowledge of nutrients and nutrient needs; and, using more and improved ingredients and additives, they can put more and better balanced nutrition in each bag of feed. They know more about requirements, more about how to supply such things as riboflavin, vitamins A and D, calcium, phosphorus—as well as protein and carbohydrates. And they can do the job more economically, while still supplying a feed which will keep birds healthier, help cut mortality and produce more eggs.

Compare the costs of the 1934 and 1955 feeds mentioned above, and you'll find: Not only is the 1955 feed better; it actually costs, even on the basis of 1955 prices, about 7% less than the 1934 feed.

More eggs, less feed . . .

One of the most striking advances in laying feeds has been the development of high energy feeds—more digestible feeds which will boost production with a lower feed intake. A maximum amount of nutrients is packed into a minimum amount of space, enabling a chicken to get more nutrients and produce more eggs or get more growth from the same volume of feed.

FOR EXAMPLE, in an eastern state, nutritionists say many farmers use an average of 7 lb. of feed to produce a dozen eggs. With a high energy ration, they point out, hens could lay a dozen eggs with 4⅛ lb. of feed.

IN AN EXPERIMENT with different energy levels, the feed requirement per dozen eggs improved from 5.7 lb. per dozen on a low energy ration to 4.1 lb. of feed per dozen eggs on a high energy ration with added animal fat.

AN EXAMPLE of what is done with special, highly fortified high energy feeds is found in results from flocks in the Oklahoma Egg Laying Test. The feed used is designed for commercial producers and large breeders for high production of either hatchery or market eggs under top management conditions.

Comparing results from the high energy rations with results in the highest year with a low energy ration, it was shown that hen-day egg production on an average for all breeds went from 217 to 244. Feed required per dozen eggs, for White Leghorns, went from 5.06 to 4.33 lb., and the average for all breeds went from 5.36 to 4.66. Also, mortality and egg production pauses were reduced.

Meanwhile, even more remarkable than improvement in laying feeds

Putting It All Together

The rapidly expanded nutrition knowledge of today can do the feeder no good unless it is put together in a balanced ration. That's why the job of the feed manufacturer, in putting all of this knowledge together in a bag of feed, has become so important in more efficient and profitable feeding. Just as scientists have learned more about animals' nutrient needs and how to supply them, feed manufacturers have improved their equipment and techniques in order to supply the more complex but better producing feeds.

Ingredients for a batch of feed are being accurately weighed out and mixed, using electronically controlled equipment in a modern feed manufacturing plant. The exact amount of each ingredient in the feed is automatically recorded, eliminating any chance of an imperfect formula.

Twenty-five years ago, only a few vitamins were recognized, and not nearly so much was known about other nutrients. Today there are dozens of nutrient factors to consider, and many more materials are used to supply them. Furthermore, each of the nutrients must be present in the right amount, for an imbalance can hurt production. On top of that, there are tiny but potent ingredients which boost growth and prevent disease. In fact, these micro-ingredients are so small in amount, that they must be put in pre-mix form before being blended in a large amount of feed.

All of this knowledge and all of these materials have made it possible to manufacture better feeds more economically. But when it becomes necessary to proportion and blend together both liquid and solid materials which range anywhere from half a thimbleful up to several hundred pounds in a ton of feed, the job is an exciting one. It means precision manufacture of the precision feeds. It means the job of the feed manufacturing plant and the feed mill has become vitally important in putting the nutrients into a form which will get top results.

All of the nutrients—vitamins, minerals, protein and energy—work together as a team. First, the feed must be formulated perfectly to get the right balance, and then it must be manufactured perfectly.

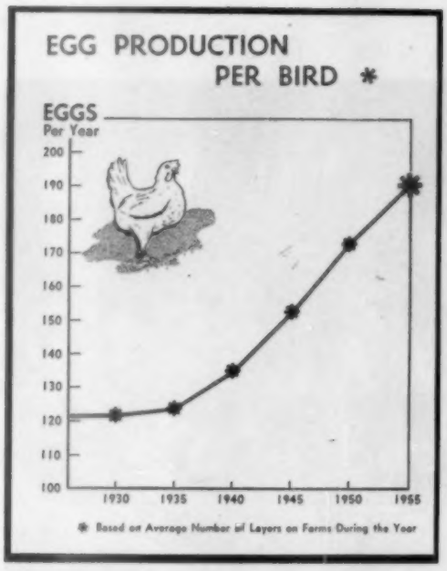
Whether the product is a complete feed, or a supplement or a concentrate to be mixed with the farmer's own grain, scientific manufacture of the scientific feed is necessary.

Meanwhile, in addition to putting the feed together better, feed plants have also used improved equipment and techniques to improve their own efficiency, lowering manhours needed to produce the feed and thereby making the complex feeds available much more economically than would have been thought possible years ago.

They also have made feeds more palatable; they have added processes like pelleting and crumblizing to improve the efficiency of feed utilization even more; they have used improved ingredients which retain their potency while being stored on the farm; they have put the feed in better packages as well as in bulk form.

In this age of specialization, feed manufacturers and dealers have performed an invaluable specialized service in providing scientifically formulated and manufactured feeds which get more efficient and profitable results on today's more efficient and profitable farms.

Many vitamins, growth-promoting substances and drugs are now added to feeds in tiny but potent amounts. In this picture are 14 such additives, and each amount shown is enough of the particular material to fortify an entire ton of feed. The amounts range from only six-thousandths of a gram up to 2 lb. The salt a person eats at one meal weighs more than some of the ingredients used in a ton of feed. If all of the materials shown here were added to a ton of feed, their total weight would be only a few pounds. Yet, each must be distributed throughout the ton of feed.



has been the improvement in rations for young chicks. This means, as with commercial broilers, remarkable gains in efficiency.

FOR COMPARISON—in 1930 researchers raised pullets to sexual maturity on 25 lb. of feed per pullet, and the birds had access to range. Recently a researcher raised pullets to sexual maturity, and without range, on 19 lb. of feed per bird.

FURTHERMORE, today's modern, chick ration even costs less than the less efficient feed of 25 years ago. A 1928 mash for growing chicks contained corn, middlings, limestone, raw bone, salt, dried milk, meat scrap and cod liver oil. This ration, at today's prices, would cost 13% more than the modern feed used in the recent test.

HOW DOES a modern chick starter feed compare with the 1928 feed? The following list of ingredients provides just some idea of the job feed manufacturers do in putting better knowledge of nutrients together in a more effective and more economical feed: corn, middlings, dehydrated alfalfa meal, soybean meal, fish meal, meat scrap, fish solubles, dried whey, phosphorus, calcium, manganese, salt, vitamin A, vitamin D, choline chloride, riboflavin, vitamin B_{12}, antibiotic and coccidiostat.

Breeder rations, which have to be even better fortified than laying rations, also have shown a great deal of improvement.

What's done it . . .

What are some of the developments which have brought all the improvements feed men can now put together in formula feeds? Leading poultry scientists mention these, among many:

THE DISCOVERIES, even before 1930, that vitamin D prevented leg weakness and that chickens required vitamin A; this made it possible to raise chicks and keep hens indoors the year around—without which the present day poultry industry could not have developed.

THE LATER DISCOVERIES of various B vitamins and the prevention of certain deficiency diseases or disorders — riboflavin and its prevention of curly-toed paralysis, for example; other vitamins included pantothenic acid, niacin and choline.

OTHER DISCOVERIES: vitamin E and its prevention of crazy chick disease; manganese and its prevention of slipped tendon.

DEVELOPMENT of high energy rations.

DISCOVERY of the significance of vitamin B_{12} in promoting growth.

DISCOVERIES of the values of antibiotics and arsenicals.

RESEARCH showing the importance of unidentified factors.

SYNTHESIS and manufacture of various new or improved vitamin supplements and also the amino acid methionine.

IMPROVEMENT in protein sources and quality, including soybean meal; determination of amino acid requirements and levels in feeds.

DEVELOPMENT AND USE in feeds of various materials such as dehydrated alfalfa meal, dried whey, fish solubles, distillers dried solubles, various fermentation products, improved phosphates, improved cottonseed meal, anti-oxidants, animal fats.

DEVELOPMENT of pelleting and crumblizing of feeds.

INCREASED USE of all-mash formulas for layers.

DISCOVERY and use of drugs to control diseases.

Looking ahead . . .

Meanwhile, college and industry scientists continue to look ahead. They foresee:

MORE EXACT knowledge of requirements for various nutrients, particularly in late growth and egg production.

IDENTIFICATION of unknown factors and development of additional concentrates to supply them.

GREATER EMPHASIS on interrelationships of various nutrients, and their relationship also to growth and production rates and to such factors as climate, disease, housing conditions and drugs.

MORE KNOWLEDGE of energy values of feed ingredients; more knowledge of chickens' energy requirements; improved relationship between energy and protein.

USE OF ADDITIONAL synthetic amino acids to improve amino acid balance; increased use of improved antioxidants in feeds.

The results . . .

What will be the results of all of these past and future nutrition developments? Industry men look for such things as:

STILL GREATER feeding efficiency; for one thing, nutritionists will know more about how to make energy work.

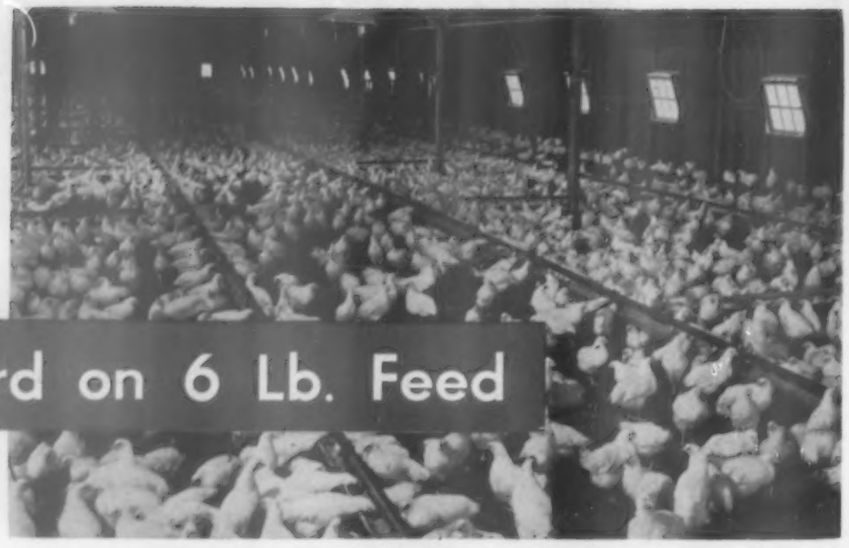
IMPORTANT improvements just by consolidating information already obtained; but to bring about these gains, there will have to be even better management as well as better feeds; for example, present average egg production efficiency is still far from its potential high.

GREATER USE of all-mash laying feeds, helping reduce labor and assuring a better balanced feed intake; more specialization in production, such as more use of laying cages.

It's clear that a lot of progress in feeding layers and chicks has been made in the past 25 years. But there's a good deal of progress ahead, too.

If only one nutrient is missing from a feed for chicks, normal growth can be prevented. This picture, from a University of Minnesota demonstration, shows what happens when vitamin D is lacking. When the picture was taken, the chick on the balanced starter feed weighed almost twice as much as the chick on the vitamin D-deficient ration.

A PROGRESS REPORT on BROILER FEEDS



3 Lb. of Bird on 6 Lb. Feed

Twenty-five years ago there was no such thing as a commercial broiler industry. Today it is an $800-million-a-year business.

No part of agriculture has grown so rapidly as the broiler industry. It has expanded 30 times over in the past 20 years—from production of 34 million birds in 1934, the first year records were kept, to more than 1 billion birds in 1954.

This tremendous growth has not been without some economic growing pains. But it has been truly outstanding growth, and it is an example of how the intensive application of science to agriculture can bring terrific gains in production and efficiency of production.

The broiler industry's more economical and more efficient production of chicken meat for a year-around market has made possible much of the big increase in consumption of chicken. Per capita consumption in 1930 was 15 lb.; in 1954 it was 24 lb. Furthermore, broilers represent by far the biggest share of the chicken meat consumed annually in the U.S. Commercial broiler sales in 1954 accounted for 73% of the total amount of chicken sold.

More nutrition . . .

Improvements in breeding, management and disease control have all contributed greatly to broiler industry progress, but particularly outstanding in the whole story of progress has been the remarkable improvement in feeds.

Most of the nutritional discoveries of the past 25 years have been in poultry nutrition, and most of them have had something to do with poultry growth. Many of the discoveries have been little short of sensational, and when feed manufacturers put them all to work in a scientifically formulated broiler ration, the result is feed which—when fed to improved broiler breeds and strains—is just about twice as efficient as the feed used 25 years ago.

Efficiency plus . . .

As the broiler industry has grown from a by-product of the egg business into a big part of the meat business, it has been pushed along by such outstanding changes as these in feeding results:

BACK IN 1930, a chick needed 14 to 15 weeks to reach an average weight of 3 lb., and it required at least 5 lb. of feed per pound of gain, or a total of about 15 lb. of feed.

TODAY, good commercial growers raise a 3-lb. broiler in nine weeks on 2.6 lb. of feed per pound of gain, or a total of about 8 lb. of feed. Furthermore, some growers are doing even better than this with commercial rations, and researchers have produced 3-lb. broilers with 2 lb. or less feed per pound of gain.

BY 1960, it is predicted, commercial growers will be producing 3-lb. broilers in eight weeks' time on 2 lb. of feed per pound of broiler, or a total of about 6 lb. of feed.

If you put on an industry basis the improvement in feeding results between 1930 and 1955, you come out with something like this:

Assume that it took 15 lb. of feed in 1930 to grow a 3 lb. bird and that the same job can now be done with 8 lb. of feed. That's a reduction of 7 lb. in the amount of feed needed to raise a broiler, and for a billion-bird crop it adds up to a saving of 7 billion pounds or 3.5 million tons of feed. Figuring feed at 5¢ per pound, it's a $350 million reduction in cost of feed to raise a billion broilers.

Putting it on another basis—if it still took 5 lb. of feed to produce a pound of broiler, the feed cost per pound would be about 25¢. However, at 2.6 lb. of feed per pound of broiler, the feed cost is about 13¢ per pound of broiler—which is just about cutting the feed cost in half.

Needless to say, the broiler industry could not be what it is today without this tremendous improvement in feed efficiency. It would not have the market that it has.

Furthermore, there would not even be enough feed, particularly high protein feedstuffs, to raise a billion broilers under 1930 requirements.

Add on to the feed savings the savings in labor, and the results are even more impressive. The time to raise a 3-lb. bird is just about cut in half, and, in addition, there have been remarkable labor savings through improved facilities and management practices.

Striking changes . . .

What about the changes in feeds that have helped make possible the almost fantastic improvements in chick growing efficiency? A comparison of the materials used in feeds will provide part of the answer.

A TYPICAL 1930 starting ration—the one used in the accompanying illustration of the feeding progress made from 1930 to 1954—contained ground yellow corn, standard middlings, bran, dried skim milk, bone meal and salt. Vitamin D was added in the demonstration to replace direct sunlight. This ration, even with a modern breed of broiler, produced a male bird weighing only 1.62 lb. at eight weeks.

ANOTHER 1930 ration — recommended at the time by New England colleges—contained yellow corn meal, bran, flour middlings, ground oat groats, meat scrap, fish meal, alfalfa leaf meal, bone meal, dried skim milk and salt, with cod liver oil generally added on the farm. Researchers in 1930, using this ration and Rhode Island chicks of mixed sex, produced chicks weighing only 1.37 lb. at eight weeks.

A 1955 STARTING broiler ration used in a college field trial contained: ground yellow corn, stabilized animal fat, fish meal, meat scrap, soybean meal, corn gluten meal, dehydrated alfalfa meal, dried whey product, dried molasses, distillers solubles, ground limestone, dicalcium phosphate and salt—PLUS a trace mineral mix containing manganese, iodine, copper, zinc, iron and calcium—PLUS a supplement containing DPPD (an antioxidant), methionine, vitamin A, vitamin D, arsonic acid, riboflavin, choline chloride, calicum pantothenate, niacin, vitamin B_{12}, antibiotic and coccidiostat. This practical type ration, along with a modified finishing ration, produced birds of both sexes averaging slightly over 3 lb. at nine weeks of age, with a feed efficiency of only 2.37 lb. of feed per pound of bird.

There are 12 vitamin, chemical or drug materials in the special supplement for this highly efficient broiler ration—yet those materials add up to only a little over 3 lb. for the fortification of a ton of feed.

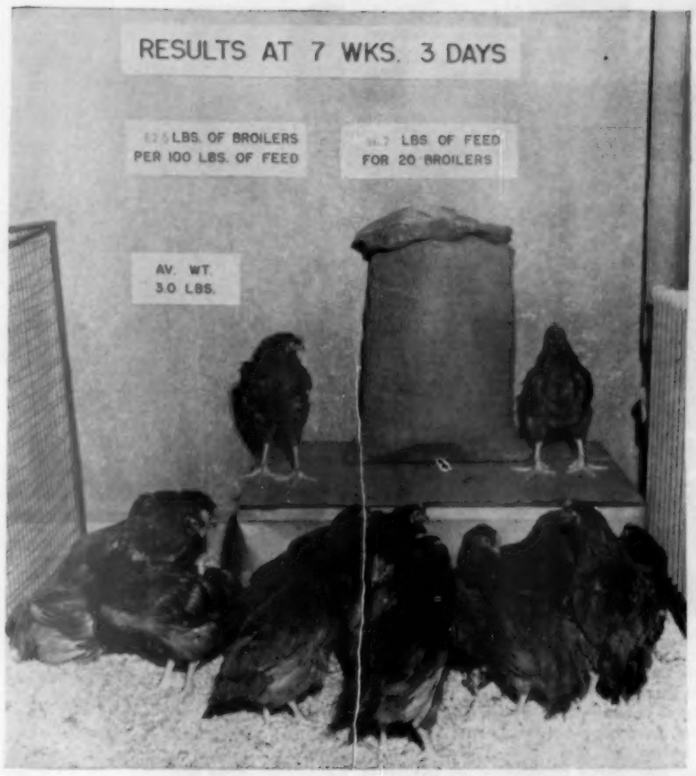
And when it comes to distributing 12 materials weighing only 3 lb. throughout a ton of feed, highly efficient mixing is vitally important if the feed is to do its job.

The changes in feed ingredients during the past 25 years, the addition of new materials, the use of highly important "spoonful" amounts of potent micro-nutrients — all of these things, as shown by the 1930 and 1955 lists of broiler ration ingredients, are tremendously important. Nutritionists, however, cannot think just in terms of ingredients. They must, in formulating a modern broiler feed, consider 38 different nutrients — not just ingredients—and they must see that feedstuffs and chemicals are combined in perfect balance to supply the needs of the feeder and his birds.

How it happened . . .

The story of how these many nutrients have been discovered, how

The broilers pictured here show graphically the progress in nutrition from 1930 to 1954. The rations fed were those used in each of the four years. Except for the feeds, the conditions of raising the broilers in the University of Maryland demonstration were the same.



An indication of possible broiler feed performance in the future is provided in this picture from the University of Maryland. The 20 male birds were fed an experimental ration, not recommended for commercial use now, and attained average weights of 3 lb. on 1.6 lb. of feed per pound of weight. Only 96.2 lb. of feed were consumed by the 20 birds during the 52-day period.

their use has been improved, is a fascinating story of science and industry and agriculture in action. Following, as outlined by broiler nutrition leaders, are some of the highlights of this story during the past 25 years:

THE DISCOVERY of vitamins A and D—which actually occurred in the 1920's; this enabled poultry to be grown indoors and the year around; without this development, the poultry industry could not exist as it does today.

THE DISCOVERY after 1930 of other vitamins of significance, including B complex vitamins—riboflavin, vitamin E, niacin, vitamin K, pantothenic acid, pyridoxine, choline, biotin, folacin and vitamin B_{12}—which prevent deficiency conditions and promote growth; although not all of these are of critical importance in practical feeds, those which are important as additives are now available at low cost and have made it possible to make much better feeds at lower costs.

DISCOVERIES OF the needs and uses of minerals, including manganese.

REMARKABLE IMPROVEMENTS in protein nutrition—including knowledge of requirements for amino acids, the "building blocks" of protein; better protein sources; synthetic amino acids.

DEVELOPMENT OF HIGH efficiency or high energy rations, including the Connecticut broiler ration; work showing how the energy level affects requirements for protein and other nutrients.

THE DRAMATIC discovery of how tiny amounts of antibiotics and arsenicals may boost growth and feed efficiency; high levels of antibiotics may also prevent or treat certain diseases.

THE DISCOVERY that certain unidentified factors, and materials supplying them, are of importance.

CHEMICAL ANTIOXIDANTS, making possible the addition of surplus animal fats and increasing the effectiveness of certain vitamins.

INCREASE in the use of pellets and crumbles, bringing more efficient feed use.

DRUGS TO PREVENT and treat coccidosis, which was a very serious hazard only a few years ago.

Even with these many developments in broiler nutrition, the great strides could not have been made without the development of improved broiler breeds and strains which provided the opportunity for the better feeds to be more effective.

ALSO, MASS SCALE, efficient broiler production would not be possible without the improved management and development of improved equipment.

The crystal ball shows . . .

Even with all of these developments in the past, nutrition researchers acknowledge that there is still much to be done. They foresee such things as:

MORE EMPHASIS on a perfect balance of nutrients, including the ratio between energy and protein.

MORE STUDY of presently accepted nutritive requirements.

IMPROVED KNOWLEDGE of how to put protein sources together to increase their effectiveness.

FURTHER IMPROVEMENT in the already improved processing and quality of feed ingredients.

INCREASED USE of synthetic amino acids, vitamins and other materials.

MORE USE of hormones in fattening poultry.

KNOWLEDGE OF at least two additional vitamins, one or more trace minerals of importance, and, altogether, several additional nutrients.

USE OF MORE industry wastes and fermentation products in feeds as the increasing population needs more food.

CONTINUED IMPROVEMENT in breeding, disease control and management, which is of vital importance in continued improvement of nutrition.

What will all of these further improvements do? Nutrition experts feel it is very likely that we will be growing 3-lb. broilers in eight weeks' time on 6 lb. of feed under commercial conditions by 1960.

The fact that such a goal is not at all out of line is indicated in some 1955 experiments.

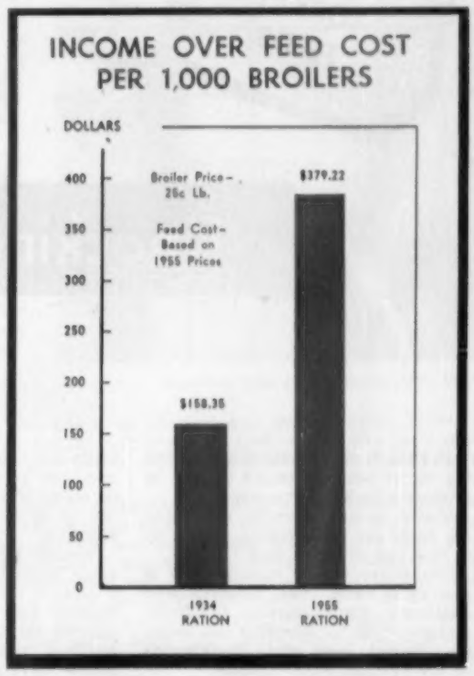
IN ONE TEST, with an experimental type ration, a group of male broilers attained average weights of 3 lb. in 7 weeks and 3 days on only about 1.6 lb. of feed per pound of weight. These broilers converted their feed to live weight at a rate of 62½ lb. of broiler per 100 lb. of feed.

IN ANOTHER EXPERIMENT, with a practical type ration, male broilers were grown to an average eight-week weight of 3.004 lb. on 2.03 lb. of feed per pound of broiler. One group gave a pound of broiler for 1.82 lb. of feed.

Yes, the whole broiler story is a tremendously impressive one. And the feed industry has played an important part in it.

Measuring Progress in Dollars

A comparison of 1934 and 1955 broiler rations shows that the modern feed can return almost 2½ times as much income over feed cost as a 1934-type feed. Figuring results on the basis of 1955 feed prices and a broiler price of 25¢ lb., the modern ration can produce income over feed cost amounting to $379 per 1,000 broilers. Income with the 1934 feed would be only $158, even though that feed was the best nutritionists knew how to make in 1934.



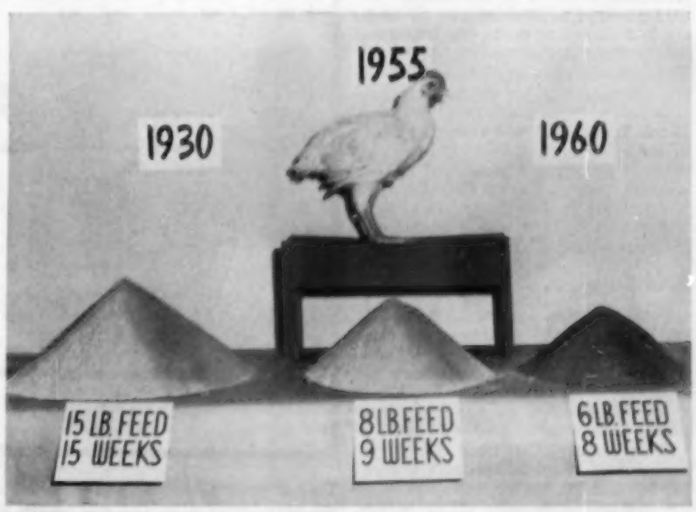
In 1951, a feed company conducted a test comparing 1934 and 1951 rations. As shown in the table below, the 10-week weight of birds on the 1951 feed was 50% greater than the weight of birds on the 1934 feed, and the feed required per pound of bird was 21% less at 10 weeks. Now this comparison has been brought up to date in terms of 1955 feed prices. In addition, growth, feed cost and income figures have been compiled for 1955 feed on the basis of what can be expected from a modern feed if used along with good management and good birds. These figures show there has been even further improvement since 1951 in feed efficiency.

Feed costs for all three rations are figured on the basis of 1955 ingredient prices at Minneapolis. Even with the great improvement in feeds, the cost of the 1955 feed is very little higher than the 1934 or 1951 ration costs. And, of course, it's results that count. The 10-week results show a modern feed can return far more income over feed cost than a 1934 ration, and the return from the 1955 feed is even better than that which would be obtained with the best 1951 feed.

It's also clear that a broiler grower couldn't even stay in business today if he were using a 1934-type feed costing $99 per ton on today's market. Assuming feed is two thirds of the cost of producing broilers, the $45 income after paying for each ton of feed would result in a failing broiler operation.

Summary of Performance of Three Broiler Feeds

	1934	1951	1955
10 wk. live body wt./bird (both sexes), lb.	2.00	3.10	3.10
Feed efficiency at 10 wks., lb.	3.45	2.71	2.48
Av. feed price per ton (farm basis)	$ 99.03	$101.42	$102.96
Mkt. value/1,000 broilers @ 25¢	$500.00	$775.00	$775.00
Feed per 1,000 broilers, weight, in tons	3.45	4.20	3.84
Feed per 1,000 broilers, cost	$341.65	$426.01	$395.78
Income over feed cost, per 1,000 birds	$158.35	$348.89	$379.22
Income over feed cost, per ton of feed	$ 45.90	$ 83.06	$ 98.65



As illustrated here, it takes a lot less feed and time to produce a 3-lb. broiler now than it did in 1930. By 1960, it's expected, commercial growers will be raising 3-lb. birds in eight weeks on 6 lb. of feed, or 2 lb. of feed per pound of broiler.

A PROGRESS REPORT on TURKEY FEEDS

Knocking 38% Off the Bill

In 1930, it took about 34 weeks and 6½ lb. of feed per pound of bird to produce a turkey for market.

Today turkey growers are doing the same job in 24 weeks, with 4 lb. of feed per pound of bird.

The entire turkey raising story is a story of tremendous progress. And continual improvements in feeds, along with better breeding and better management, have made the progress of the past 25 years possible.

To get a better idea of the progress that has been made, let's talk turkey with some figures.

Pounds and dollars . . .

ASSUME FOR HEAVY breed turkeys today an average weight of 20 lb., including hens and toms. Then, with today's good average feed conversion rate of 4 lb. of feed per pound of turkey, it takes 80 lb. of feed to produce a 20-lb. bird. Using 5¢ per pound as a feed price, the total feed cost adds up to $4 per bird.

NOW, WHAT WOULD the situation be if turkeys still were being raised at 1930 rates? If the same 20-lb. bird were grown at a feed efficiency of 6½ lb. of feed per pound of turkey—which is suggested as an average for 1930—it would take 130 lb. of feed to produce the turkey. Actually, many of the 1930 rations, based on today's prices, would cost more than the current well balanced, highly fortified feeds. But, still using 5¢ per pound as a feed price, the cost of feed at the 1930 conversion rate would be $6.50 per bird.

Thus, the 25 years of progress have meant for turkey growers an average reduction of 50 lb. in the amount of feed required to produce a 20-lb. bird. Or, in dollars and cents, the improvements have cut a healthy $2.50, or 38% off the cost of feed needed to produce a turkey for market.

Going a little further—if all the 45 million heavy breed turkeys raised in 1954 had been grown out at 1930 rates to an average weight of 20 lb., it would have taken another 1.1 million tons of feed to do the total job, and the total feed cost would have been more than $100 million greater.

And time . . .

It is readily apparent that the feeding efficiency improvement has been tremendous. Actually, though, the saving in feed is only part of the gains made. There also has been a great reduction in the labor required to raise a turkey.

Back about 1930, from 32 to 36 weeks were required to finish a turkey for market. Today turkey raisers are marketing females at 22 to 24 weeks and males at 24 to 26 weeks of age. The actual marketing age is dependent to a certain extent upon the section of the country where the birds are being raised. But any way you look at it, it means a reduction of about 30% in labor, along with a cut of 38% in the amount of feed required.

What's more, there has been a great reduction in mortality.

Most of the improvement in turkey feeding has come within the past quarter century. It has come in nutritional discoveries and improvements by college and industry researchers. And as new nutritional discoveries have been made, the feed industry has quickly translated them into faster and more economical production for growers by packing more and more nutrition into a given size bag of feed.

The feed story isn't the whole story, however. There also has been very great improvement in management and disease prevention. And selective breeding has helped bring more economical production of more desirable turkeys.

Without all of this progress, the turkey industry could not have been anywhere near what it is today. It could not have met the demand for more turkey meat, and it could not have helped create more demand through its more efficient production of higher quality, more popular turkeys.

It is necessary to look no further than the figures on turkey production and consumption to see the evidence of the more efficient production and better demand.

The year's production in 1930 was only 17 million birds. In 1954, the total turkey crop was almost four times bigger. It was 63 million birds, including 18 million of the newer light breed turkeys.

Per capita consumption of turkey meat in 1930 was 1.5 lb. In 1954, at 4.6 lb., it was about three times as large.

There is now a year-around demand for turkey, which has given a big boost to the industry, and turkeys have been bred which better meet the modern consumer's demands.

For example, in 1930 a long-legged, rangy turkey prevailed. But then the so-called "baby-beef" type, with a thicker, heavier set body, was developed. At the same time, scientists responded to the housewife's demand for a smaller bird by developing the Beltsville Small White breed. Also, the light turkey fryer became popular.

Meanwhile, there was the terrific problem of infectious diseases to overcome. Heavy losses resulted from diseases in the 1930's. In fact, disease at times almost threatened to wipe out the industry. But the National Poultry Improvement Plan, science and the drug companies combined to find the means of controlling many of these diseases. The feed industry, alert to every development, quickly added certain drugs to feeds to prevent and control such diseases as coccidiosis, blackhead and hexamitiasis. Also, vaccines were introduced to prevent other diseases.

While all of this was going on, college scientists were busy advancing the knowledge of nutrition, and from the college and industry laboratories and research farms came the discoveries and improvements which were quickly put to work in better feeds.

A simple illustration of the great changes that have been made in just the composition of feeds may be found in this comparison:

Some changes made . . .

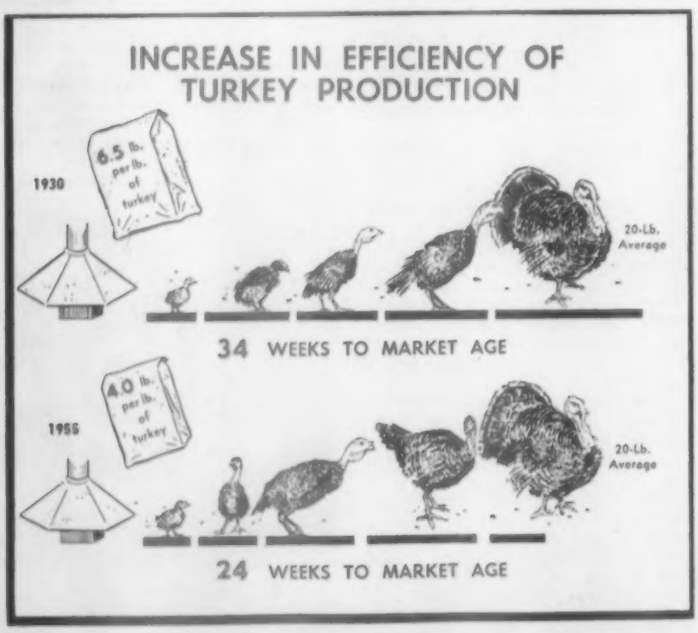
A TYPICAL TURKEY starter feed about 1930 contained: mill run, ground corn, alfalfa meal, dried milk, bone meal and salt. Cod liver oil also was being added to many poultry mashes then.

TODAY A TYPICAL turkey starter might include: ground yellow corn, soybean oil meal, fish meal, dried whey, condensed fish solubles, dried brewers yeast, pulverized oats, dehydrated alfalfa meal, dicalcium phosphate, ground oyster shell, salt and meat and bone scraps—plus fortification with riboflavin, calcium pantothenate, niacin, choline chloride, vitamin B_{12}, vitamin A, vitamin D, antibiotics, methionine, arsonic acid, trace minerals and drugs to prevent disease. (There could readily be variations in this, but this is suggested as one example of a ration of today.)

The 1955 list of ingredients— particularly with the vitamin, growth promoting and other additives—is an imposing list and illustrates the great improvement in nutrition knowledge and the availability of additional and more potent materials. But, complex as today's highly fortified feed is, it still would cost at least 10% less than the 1930 feed, based on today's prices. Thus, not only has there been great improvement in feeds; there actually has been a reduction in feed costs based on present prices.

While most turkeys in 1930 were not fed very well in comparison with modern standards, it was about that time that the first special turkey diets were developed by research workers. Previously turkeys had been getting chicken feed. The development of these diets helped greatly in pushing the industry ahead.

For example, a starter mash recommended in 1931 contained yellow



Turkey production today is far more efficient than it was 25 years ago. Both the amount of feed and the length of time required to finish a turkey for market have been greatly reduced. It is now possible to raise a turkey to a 20-lb. average, including hens and toms, in an average of 24 weeks. And it can be done on about 4 lb. of feed per pound of bird.

A completely balanced feed is vitally important for turkey poults. In a University of Minnesota demonstration, one group of poults got a balanced starter feed; another group got a ration complete except for a deficiency of one nutrient, the vitamin riboflavin. The results are illustrated above. Riboflavin prevents curly-toed paralysis and is important in growth.

corn meal, wheat bran, flour middlings, ground oat groats, dried milk, alfalfa leaf meal, steamed bone meal, meat scraps, fish meal, salt and cod liver oil.

However, the better, higher protein rations recommended then—although they improved results—would have cost, on the basis of present ingredient prices, as much as 45% more than the modern feed of today.

While changes in composition of feeds illustrate the advance in nutrition knowledge, the modern nutritionist does not think just in terms of feedstuffs. He thinks in terms of the many nutrients—things like vitamins; amino acids, the "building blocks" of protein; energy; and minerals. And he sees that, through the various ingredients and additives, all of the nutrients are put together in each bite of feed in the best possible balance.

What's behind it . . .

What are some of the developments of the past 25 years that have made for the increased knowledge of nutrition and the assembling of nutrients and chemical additives in the more efficient turkey feeds of today? Briefly, the list would include something like this:

ESTABLISHMENT OF PROTEIN requirements, including development of the high protein (26-28%) starter; changes in availability of protein concentrates, including soybean oil meal; more knowledge of amino acid needs and supplementation.

ISOLATION, SYNTHESIS and economical production of various vitamins which prevent a number of deficiency diseases and conditions and promote growth.

DISCOVERY OF THE EFFECT of just a few grams of antibiotics per ton of feed in increasing growth rate; use of high levels of antibiotics to treat or help prevent diseases; use of arsonic acid to stimulate growth and help prevent disease.

ESTABLISHMENT OF MINERAL requirements and addition of certain minerals to meet the needs.

THE DEMONSTRATION that poultry can't digest crude fiber and the development of more efficient high energy feeds.

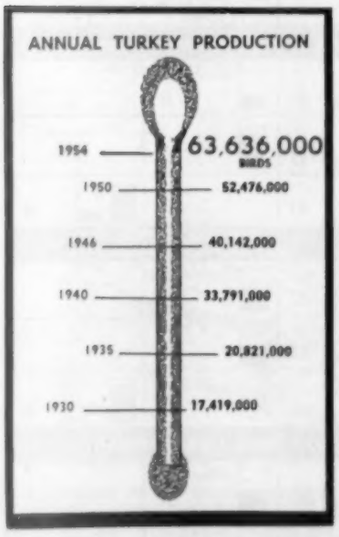
MORE KNOWLEDGE of growth factors which are still unidentified, and the use of materials to supply these factors.

PELLETING AND CRUMBLIZING of feeds to promote better growth and utilization of feed.

MANUFACTURE AND USE in feeds of drugs to control diseases.

All of these significant advances add up to the great improvement in feed efficiency. It is these improvements, along with better breeding and management and disease prevention, that have made possible today's feed efficiency of 4 lb. or less feed per pound of turkey. This is an improvement of at least 30 to 50% over what prevailed generally back in 1930, and in some instances it may represent a 100% improvement, scientists say.

To show just how important the various improvements have been, look at the dramatic results of antibiotics alone. A conservative estimate puts the nutritional value of antibiotics at 40¢ per bird. And for the entire turkey crop, that means a value of at least $20 million over and above the cost of the antibiotic. In addition high levels of antibiotics are fed under certain conditions.



Turkey production has increased greatly during the past 25 years. Advances in feeding as well as in breeding and management, have helped make possible the expansion of turkey production and consumption.

And more to come . . .

With all of this great progress, some persons may wonder what the future holds, whether further improvements in feeds and feeding can be made. Actually, the scientists would be the first to say that the ultimate has not been reached. There is still a good deal to be learned about turkey nutrition, science doesn't stand still, and that can only mean even better feeding results in the future.

A look into the turkey feed future indicates such things as:

MORE USE of the more efficient high energy feeds, including greater use of fats in feeds.

GREATER EMPHASIS on the intricate inter-relationships of nutrients and the relationship between nutrition and disease.

EVEN GREATER precision in the formulation of feeds to provide more perfect balance.

MORE KNOWLEDGE of protein and its components, the amino acids; more use of synthetic amino acids.

IDENTIFICATION of presently unidentified factors and the use of this knowledge to build even better feeds.

THE ADDITION of hormones to turkey feeds to help produce a more desirable finished carcass.

Since the turkey is raised for production of meat, the primary aim is to produce the most rapid, uniform growth possible on a minimum amount of feed, and in addition to be sure the feed contains nutrients for the prevention of deficiency symptoms such as enlarged hock disorder. The feed industry has helped to attain this goal in the past and will help see that even better results are obtained in the future.

The nutritionists and other scientists will continue to uncover new information, to open new ways to improve turkey feeds. And the feed industry will rapidly put the knowledge to work with even more nutritious and precisely formulated manufactured feeds which will help return greater profits to progressive producers.

The Unlisted Ingredient

It doesn't show on the feed tag, but there's a great deal of science in every bag of formula feed. The research job never ends. Animal nutritionists, in laboratories and on research farms throughout the country, are constantly turning up new information—new answers to old questions, or more new questions and then more answers. Thousands of workers are in basic research, uncovering vital fundamental information. Others are busy in applied research, figuring out how new discoveries can be put to work. Many technical people are running field tests to find out how ideas which look good on paper will work out under practical farm conditions.

American Feed Manufacturers Assn. Photo

Much of the valuable knowledge behind today's improved feeds has been developed by diligent workers at state college and government experiment stations, and they continue to uncover new data of basic and practical importance.

Industry's part in the research picture is mighty important, too. A new idea has to be checked, and checked again, before it can be turned into better results in the farmer's feedlot. Exacting tests show which formula, how much of this or that ingredient, will give the best and most economical results.

Feed manufacturers and their suppliers, including ingredient and chemical manufacturers, conduct an amazing amount of research, and they sponsor many other projects at experiment stations. An example of what's being done is found in figures on activities of just 63 of the many feed manufacturers. An American Feed Manufacturers Assn. survey showed that in one year, experimental work on the farms and in the laboratories of these 63 firms included: 1,438,880 broilers, 112,695 laying hens, 163,336 turkeys, 24,346 other fowl, 11,078 swine, 1,706 beef cattle, 1,663 dairy cattle, 392 sheep, 1,075 dogs, and 46,614 other four-footed animals. If an average midwestern county were populated with animals and birds from these research farms, there would be enough to put 847 broilers, 96 turkeys, 67 laying hens, a beef animal, a dairy cow, a hog and a dog on each of 1,700 farms, with 47,000 other four-footed animals left over.

It's work like this by colleges and industry that adds up to more meat, milk and eggs and more profit for the feeders.

600 Lb. or 6 Grams—It's There

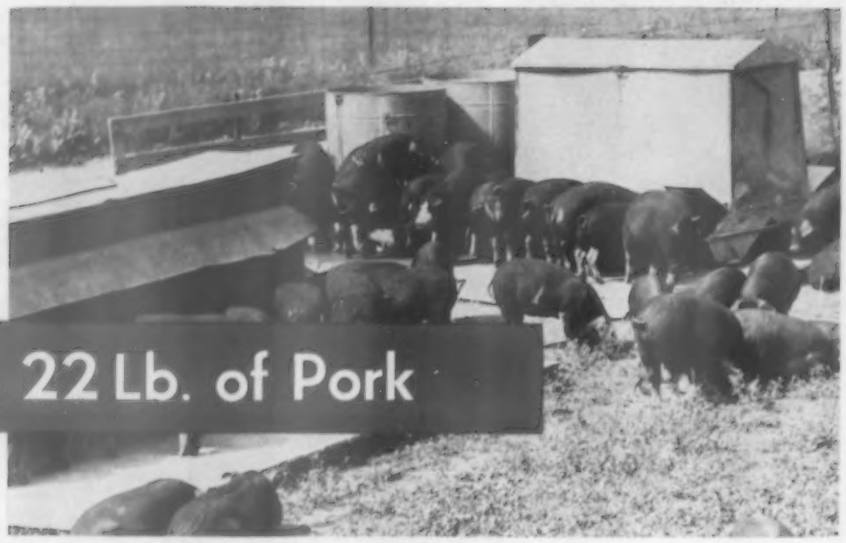
There is no one most important nutrient in a balanced feed; all required vitamins, minerals and other nutrients must be present and in the right amounts. To insure uniformly high quality in today's increasingly complex feeds, manufacturers carry out extensive quality control programs, involving checks and inspections from the time ingredients enter the plant until finished feeds move out on their way to producing more meat, milk and eggs.

An important part of the control work is laboratory analysis of incoming ingredients, which must measure up to specifications set by nutritionists. Similar testing is required after the feed is made. The technical people see, for example, that the tiny particles of a powerful "spoonful" ingredient are distributed throughout a ton of feed. Whether it's 600 lb. or 6 grams of an ingredient or nutrient that are required in a ton, the quality control work will make certain that it's present in the correct amount in every bag of feed, ready to help boost growth or production.

As nutrition knowledge has increased, the lists of nutrients required in any feed have continued to grow. For example, feed manufacturers now are concerned not only with the percentage of protein but also with each amino acid, or "building block," which is part of the protein. That's why quality control is so important, and why feeds are now so much more efficient.

Laboratories are an important part of the quality control program in feed manufacturing plants. Technicians use the various pieces of equipment shown in this photo of a typical laboratory to analyze incoming ingredients and also the finished feeds to see that rigid quality standards are met. Manufacturers of ingredients for feed use similar facilities to maintain the quality of their products.

A PROGRESS REPORT on SWINE FEEDS



An Extra 22 Lb. of Pork

Twenty-five years ago, it took at least 425 lb. of feed to produce 100 lb. of pork.

Today, the same amount of feed will produce 122 lb. of pork—an extra 22 lb.

These figures, comparing feed conversion results for the period from weaning to market, are just one example of the great progress that has been made during the past 25 years in swine feeding.

There are many other examples of progress, too:

THE TIME required to produce a hog for market has been cut by as much as 23% from a good 1930 average.

SOME YEARS AGO a litter of pigs weighing a ton at market time was hard to attain in eight months; later it took about six months; now we have ton litters at 5½ months.

THROUGH IMPROVED management and feeding of sows and baby pigs, the number of pigs saved per litter by top hog raisers is up to 50% greater than the 1930 average. The average 25 years ago was six; today it is seven, and eight to ten-pig litters are common.

IN 1930 A GOOD weaning weight at eight weeks or more was 25 lb.; today many pigs are weaned at eight weeks weighing 40 lb.

INSTEAD OF WEANING at eight to ten weeks, it is becoming regular practice to wean pigs at three to five weeks and have them weighing up to 50 lb. each at eight weeks of age. Also, some top producers are weaning pigs as young as two weeks or less.

TWENTY-FIVE YEARS ago it took 7 bu. of corn plus tankage to produce 100 lb. of pork in the growing-fattening period; now, with a modern supplement it takes only 5 bu. of corn.

WHILE 425 LB. of feed were required per 100 lb. of gain in 1930 to grow and finish a hog from eight weeks to market, many hog raisers are now doing the same job on 340 lb. of feed—a 20% reduction. Some use 350 lb., some as little as 325 lb. of feed per 100 lb. of gain.

It's mostly the feed . . .

Progress in breeding and management has helped make these accomplishments possible, but without the improved feeds that we now have, the breeding and management would be largely lost.

The faster gains and more efficient use of feed result almost entirely from newer nutrition knowledge put to work in modern feeds. The feed industry has turned the vitally important college and industry research into more and cheaper growth or production from every bag of pig feed, every bag of hog or sow supplement.

For the swine industry, this has meant savings of millions of dollars worth of feed and labor. It has meant reductions of hundreds of dollars for individual farmers. It has meant for many farmers savings of several dollars worth of feed per hog marketed.

Let's compare . . .

Some idea of the accomplishments may be seen in this comparison between 1930 and 1955:

Assume a market weight of 210 lb., that pigs were weaned at 25 lb. in 1930 and 40 lb. in 1955.

At a 1930 feed efficiency of 425 lb. of feed per 100 lb. of gain, it would take 786 lb. of feed to get a hog from 25 up to 210 lb. At a good 1955 conversion rate of 340 lb. of feed per 100 lb. of gain, it takes 578 lb. of feed to raise a hog from 40 lb. up to 210 lb. In addition, about 28 lb. of pig starter would be fed to each pig under the 1955 feeding plan used for this comparison. That would make a total of 606 lb. of feed.

Not counting possible sow feed savings through use of the starter, the 1955 feeds thus can mean a reduction of 180 lb. from 1930 in the amount of feed needed to put a hog on the market. Multiply that by an annual slaughter of 80 million hogs, and you have a reduction of 7,200,000 tons in the amount of feed needed to make a year's pork supply.

Using a modern pig starter and supplement, the average cost per pound of the feed for a 1955 ration would be slightly higher than a 1930 ration of only corn and tankage at present prices. But, it is readily apparent, the 1955 rations produce much more pork much more economically.

Assume for sake of comparison that the modern ration cuts $3.50 per hog off the 1930 feed cost figured at 1955 prices. That conservative figure is equal to a total saving to feeders approaching $300 million. Actually, with modern practices, many producers can reduce by considerably more than $3.50 the cost per hog.

Less labor, too . . .

The feed requirement reduction is just part of the story. There also has been a big labor reduction.

IN 1930 A GOOD daily rate of gain after weaning was 1.34 lb., and a hog didn't reach market until it was at least 6½ months old.

UNDER A MODERN program, the

Modern Hog Rations Pay

A University of Minnesota demonstration in 1953, illustrated in the picture above and the chart on the right, dramatically showed the value of feeding modern swine rations as compared with 1910 and 1930 rations. The demonstration was started on May 28, when the pigs averaged 51 lb. each. After 2½ months the results were amazing. (See picture.) And after 3½ months (see chart), the modern ration's advantages were even more marked. The 1910 ration included corn and minerals plus vitamins A and D; the 1930 ration was the same as the 1910 ration, plus tankage; the 1953 ration was corn plus a modern balanced supplement. Based on current prices, the modern ration saved $14 in feed per pig compared with the 1910 ration.

RATION FED	AVERAGE DAILY GAINS (in pounds)	FEED PER 100 POUNDS GAIN		
		CORN (in bushels)	TANKAGE AND MINERAL (in pounds)	SUPPLEMENT (in pounds)
FROM WEANING (51 POUNDS) TO 125 POUNDS AVERAGE WEIGHT				
1910	0.64	9.1	(mineral only) 16	
1930	0.96	5.7	44	
1953	1.70	4.3		59
FROM 125 POUNDS TO		135 POUNDS (1910 RATION)	AND 200 POUNDS (1930 AND 1953 RATIONS)	
1910	0.34	15.1	(mineral only) 26	
1930	1.63	6.8	27	
1953	1.92	6.1		45
FROM WEANING (51 POUNDS) TO 200 POUNDS AVERAGE WEIGHT				
1910	0.45*	12.1*	(mineral only) 21	
1930	1.20	6.3	35	
1953	1.81	5.2		52

* Estimate based on record to October 20.

daily rate of gain after weaning is 1.6 to 1.8 lb., and the time from birth to market has been reduced by 1 to 1½ months. That adds up to a lot of hour and dollar savings in labor.

Changing feeds . . .

How have rations for growing and finishing hogs changed during the past 25 years?

IN 1930 a few mixed supplements were being developed, but the typical ration was corn supplemented with tankage and some mineral.

TODAY A HOG supplement might contain: soybean meal, tankage, linseed meal, dehydrated alfalfa meal, bone meal, limestone and salt—plus trace minerals, including iron, copper, cobalt, manganese, zinc—plus vitamin B_{12}, riboflavin, pantothenic acid, niacin, choline and vitamin D—plus antibiotic.

The longer list provides some idea of the advances made in knowledge of nutrients needed by swine. It's all of these nutrients, supplied in various ingredients, which feed manufacturers put together in the well balanced 1955 supplement.

Feeding baby pigs . . .

There also have been marked changes in baby pig feeding.

IN 1930, if a creep feed was fed at all, it was probably rolled oats. The average weaning weight, at 8 to 10 weeks, was around 25 lb.

TODAY, many pigs weaned at eight weeks weigh about 40 lb. Or, pigs may be weaned early, perhaps at two to five weeks, and weigh up to 50 lb. at eight weeks of age. These 1955 weights are made possible by good management and modern pig starters and pre-starters.

These feeds nourish pigs better, provide a source of antibiotics, stimulate growth. More pigs per litter are saved; losses which amounted to 35% before are often cut to 25%. Getting pigs on dry feed sooner gets them to market sooner because they are heavier at weaning and each extra pound at weaning may mean 2 to 3 lb. more at market time. Feed also may be saved; it takes 12 lb. of feed daily to nourish a nursing sow but only 6 lb. for a dry sow; so, for a week cut off nursing time by use of a starter, 42 lb. of sow feed are saved. Weight on sows may be saved, and there is less shock at weaning time.

Early weaning . . .

Also the top producers find further gains through use of special pre-starters, as well as starters, and early weaning—as young as one to two weeks and up to around four weeks. Advantages listed for this practice include: healthier pigs, fewer runts, saving in sow feed, less sow-to-pig diseases, less hazard to pigs, less labor, speeding up breeding, more multiple farrowing.

In connection with early weaning and starting feeds, nutritionists point out that young pigs convert feed more efficiently, gaining 1 lb. on less than 2 lb. of feed before they are eight weeks old and making it profitable to pay more per pound for starting feeds. At the same time, savings through early weaning are added by obtaining a heavier pig at eight weeks, providing extra value for each pound of extra weight. With such advantages, some nutritionists estimate savings of more than $4 per pig through early weaning of excellently managed pigs.

Improved sow feeds and sow management since 1930 also have brought extra profits through larger litters and heavier pigs at birth. It takes five pigs weaned to break even; the greater number of additional pigs now hikes profits. A pig that's 2½ lb. at birth has five times better chance of being weaned than a 1½-lb. pig. A pig of 3 or more pounds at birth may weigh up to 6 lb. more at weaning and up to 30 lb. more at market time than a pig weighing 2½ lb. at birth.

How do modern starter feeds compare with a typical 1930 creep feed of rolled oats? A 1955 starter might contain: corn, rolled oats, soybean meal, meat scraps, fish meal, dried skim milk, limestone, bone meal, salt—plus traces of iron, copper, cobalt, manganese, iodine, zinc—plus vitamin A, vitamin D, riboflavin, pantothenic acid, niacin, choline, vitamin B_{12} and antibiotic.

All of the changed swine feeds represent the important nutrition advances made by researchers and turned into more productive feeds by the formula feed industry.

Prior to 1930 the importance of vitamins A and D was recognized; there was the discovery of anemia in baby pigs and how to prevent it with iron and copper.

The reasons why . . .

Nutrition highlights since 1930 include:

DISCOVERY and commercial production of various vitamins, including riboflavin, choline, niacin, pantothenic acid.

BETTER COMBINATIONS of feeds; greater use of mixed supplements.

ISOLATION and use of vitamin B_{12}; discovery of the effects of antibiotics and arsenicals.

MORE KNOWLEDGE of amino acids, the components of protein; improved protein quality and supplies; more knowledge of mineral needs.

DEVELOPMENT of pig starter feeds; pelleting of feeds; early weaning.

All of these developments have broadened widely the understanding of swine nutrition, and they've rapidly been turned into improved formula feeds.

The crystal ball . . .

Meanwhile, nutritionists continue to look ahead and they see things like:

MORE KNOWLEDGE of baby pig nutrient needs and further improvement in pig feeds; more information on brood sow feeding and even better results.

STILL BETTER results from the already efficient growing and finishing rations; better balance of nutrients.

GREATER SPECIALIZATION in hog production and improved efficiency; scientific breeding, development of pig nurseries, specialized hog feeders, greater use of multiple farrowing.

MORE USE of complete hog feeds, possibly in pelleted form; less free choice feeding of hogs.

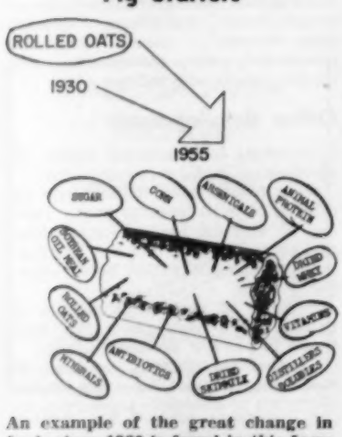
CONTINUED increase in early weaning; more work on disease problems; saving and marketing of more pigs.

POSSIBLE use of hormones in swine feeds; isolation of unidentified growth factors.

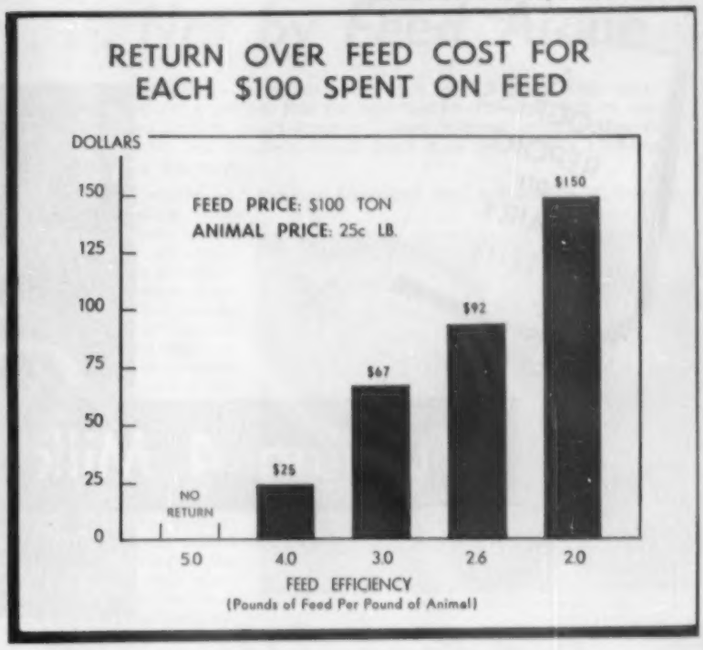
Scientific studies never stop; neither does feed industry progress. That's why swine feeders can look for even better, more profitable results in the future.

Since feed accounts for almost 80% of the cost of producing pork, the good feeder can be sure of the greatest pig profits by taking advantage of new developments in swine nutrition.

Development of Modern Pig Starters



An example of the great change in feeds since 1930 is found in this Iowa State College illustration. While the old pig starter was nothing more than rolled oats, 12 different ingredients (some containing 6 or 8 different nutrients) are incorporated in the 1955 starter pellet pictured here.



The great importance of feed efficiency—pounds of feed per pound of animal—is clearly illustrated in the chart above and in the table below. The table shows the amount of money a farmer makes over feed costs for each $100 spent on feed in relation to feed efficiency and cost of feed.

Since the table is based entirely on feed costs and feed efficiency, it may be used for any growing animal, including poultry and swine. At the bottom of the table is an explanation of how to calculate the return at any price per pound of animal. This table was developed by Dr. George M. Briggs of the National Institutes of Health, Bethesda, Md.

To show how important good feed conversion is: When the price of poultry is 25¢ lb. and the cost of feed is $100 ton, a feed efficiency of 4.0 will return $25 over each $100 spent for feed. But, when feed efficiency is improved to 2.6, the return is $92, or almost four times as great. Good feed and management really pay.

Return Over Feed Costs for Each $100 Spent on Feed in Relation to Feed Efficiency and Cost of Feed

(Calculated on Basis of Selling Price of Animal at 25c Per Pound)*

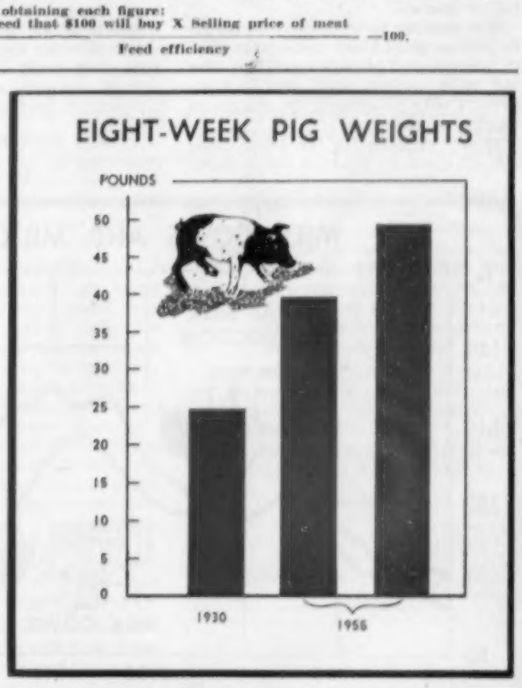
Feed Efficiency†	Return over feed costs for each $100 spent on feed when cost of a ton of feed is: $65	$70	$75	$80	$85	$90	$95	$100	$105	$110	$120
2.0	$285	$257	$234	$213	$194	$178	$163	$150	$138	$127	$108
2.2	250	225	203	184	167	152	139	127	116	107	89
2.4	220	198	178	160	145	131	119	108	98	89	74
2.6	196	175	156	140	126	114	102	92	83	75	60
3.0	156	138	122	108	96	85	75	67	59	51	39
3.4	126	110	96	84	73	63	55	47	40	34	25
3.8	102	88	76	65	56	46	39	32	25	20	10
4.0	92	79	67	56	47	39	32	26	19	14	4
4.2	83	70	59	49	40	32	25	19	13	8	—1
4.6	67	55	45	36	28	21	14	9	4	—1	—9
5.0	54	43	33	25	18	11	5	0	—5	—9	—17
5.5	40	30	21	14	7	1	—4	—9	—13	—17	—24
6.0	28	19	11	4	—2	—7	—12	—17	—21	—24	—31

†Pounds of feed per pound of animal.

*To calculate the return at any other selling price per pound of animal, add $100 to the above figure, multiply the sum by the new selling price, divide by 25, and subtract $100.

Formula used for obtaining each figure:

$$X = \frac{\text{Pounds of feed that \$100 will buy} \times \text{Selling price of meat}}{\text{Feed efficiency}} - 100.$$



In 1930, a good weaning weight for pigs at eight weeks was 25 lb. Today, with a pig starter fed, many pigs are weaned at eight weeks weighing about 40 lb. Programs involving early weaning and the use of pre-starters and starters are designed to produce pigs weighing about 50 lb. at eight weeks.

A PROGRESS REPORT on DAIRY FEEDS

Turning 4 Milk Cans Into 5

The past 25 years have seen some real gains in the efficiency of milk production.

The general improvement hasn't been dramatic, but almost constant progress has brought significant results. For example:

THE AVERAGE NUMBER of milk cows on farms in 1954 was practically unchanged from the 1930 total; yet, because of a gain in rate of milk production per cow, total milk output in 1954 was almost 25% larger than in 1930. It's like turning four cans of milk into five.

THE COST OF FEEDING a calf, based on present prices, has been cut as much as 40% through the use of modern feeding programs.

Various factors have entered into the improved dairy farming results, and among them have been the advancing nutrition knowledge and better feeds.

Look at the figures . . .

A few figures will provide an idea of the improvements in dairy farming:

In 1930, total milk production on farms was about 100 billion pounds; in 1954, it was up to a record 123.5 billion pounds.

The number of milk cows on farms in 1930 averaged 22.2 million; in 1954 it was only 22.4 million. Thus, the big milk output gain was accomplished with practically no change in number of cows.

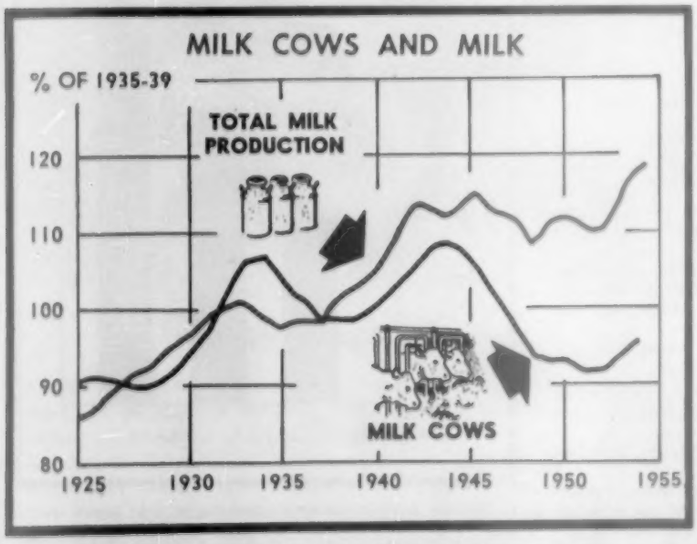
It was possible for the same number of cows to produce much more milk because the average rate of output per cow climbed 22%. The rate was 4,500 lb. a year in 1930; it slipped off to 4,000 lb. in the early 30's, but then rose almost steadily to a record 5,512 lb. in 1954.

Perhaps the most important factor in the gradual increase in rate of milk production has been the breeding of cows with more productive capacity. However, it also takes more and better feed to make more milk—to "cash in" on the cow's potential—and paralleling the advance in production have been improved management and feeding.

In this connection, statistics show that in the early 1930's, about 15% of the concentrate rations fed to milk cows were manufactured feeds. In recent years, however, formula feeds have accounted for close to 30% of all grains and concentrates fed to milk cows. These balanced manufactured feeds have helped make it possible for dairymen to use their roughage and pasture more efficiently and to produce milk more economically.

Meanwhile, there is still a lot of room for improvement in average milk production rates. In fact, leading nutritionists say there is no reason why we should not shoot for an average annual production of at least 10,000 to 12,000 lb. of milk per cow—about double the present average. This, they point out, can be accomplished through two continued improvements, better breeding and feeding.

Already cows in some areas are producing at an average rate 50% above the national average. And cows now being tested in artificial breeding associations in the Dairy Herd Improvement Assn. are real milk factories—they're producing about 10,000 lb. a year.



The number of milk cows on farms now is about the same as 25 years ago. However, total milk production in 1954 was almost 25% larger than in 1930. That's because of the substantial gain in milk production per cow.

The reasons why . . .

What are some of the developments in improved dairy cow management and feeding? Leading nutritionists suggest things like these:

ARTIFICIAL BREEDING, rapidly boosting the ceiling of production; artificially conceived daughters in one state in 1954 averaged 409 lb. more milk and 25.7 lb. more butterfat per lactation than their dams.

GRASSLAND FARMING, with good forage preservation, making possible more economical milk production.

RECOGNITION OF the importance of top quality pasture and roughage; in one study the cost of grain per cwt. of milk was $1.25 less with excellent roughage than with poor quality roughage.

RECOGNITION ALSO that poor roughage requires more exacting supplementation than good quality roughages; a college survey in one state showed only 30% of the forage was of good or excellent quality.

INCREASED KNOWLEDGE of the rumen or paunch; more is known about how ruminants can synthesize B vitamins and protein, how to feed the bacteria in the rumen as well as the animal itself and how to help get more nutrients from roughage.

ADVANCES IN vitamin and mineral nutrition; deficiencies, such as those of cobalt, phosphorus, iodine and vitamin A, have been eliminated; no longer are animals in certain areas subject to "hidden hunger."

MORE KNOWLEDGE of protein requirements and how to meet them, including the fact that urea and other sources of non-protein nitrogen can be substituted for part of the protein in the ration.

RECOGNITION OF the importance of adequate feed during the dry period so that the cow will have reserves to draw from during lactation; cows may give 1,000 to 2,000 lb. extra milk during the following lactation if they get body-building feed and gain 100 lb. in addition to the weight of the calf.

MORE RECOGNITION of the need for good scientifically formulated supplement feeds, adapted to the level and quality of roughage; more recognition that supplemental feeding must take care of not just the average cow but the high producer as well.

BETTER FEEDING during pasture season, too; in a test from April through February, cows supplemented while on pasture had reserves for continued good production—they gave an average of 1,750 lb. more milk per cow than another group getting only pasture during the pasture season.

The advances in knowledge of the importance and function of various nutrients and the function of the rumen have been put to work in improved feeds. A comparison of dairy feeds helps show the changes:

IN THE 1920's, a recommended mixture for dairy cows included: ground corn, corn gluten feed, linseed meal and wheat bran.

No mineral additions were thought to be necessary. At that time, the feeding standards included recommendations only for digestible protein, total digestible nutrients and dry matter. Some of the minerals were known to be essential for animals, and while vitamins A, B, C, D and E had been discovered, it was not known that they were important in feeding animals. The essential nature of the trace mineral elements cobalt, copper and manganese had not even been suggested. It was known that vitamin B (thiamine) was formed by rumen bacteria, but other members of the B complex were unknown. The synthesis of amino acids, the "building blocks" of protein, was not even suspected.

TODAY, SOME dairy mixture recommendations may call for essentially the same ingredients, but there is improved knowledge of how to balance the required nutrients and how to supplement the feed with required vitamins and minerals when necessary. A typical dairy concentrate mixture might include: corn, oats, soybean meal, linseed meal, distillers dried grains, corn gluten feed, wheat bran, wheat middlings, molasses, urea, vitamin D, calcium carbonate, phosphorus, salt, manganese, iron, copper, cobalt and iodine.

Other developments . . .

Research has revealed other developments in dairy feeding, too:

Researchers have reduced the incidence of milk fever by heavy feeding of vitamin D prior to calving, and by the feeding of a low calcium-high phosphorus ration before calving.

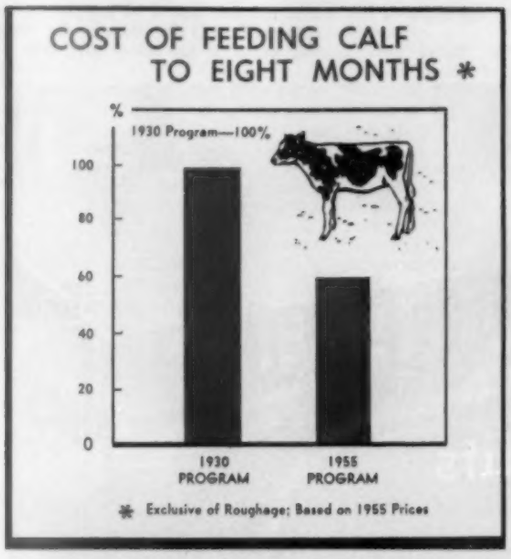
Feeding of sodium propionate or certain other compounds has been found to prevent or treat ketosis.

Thyroactive protein, a hormone substance, is used by some skilled dairymen to stimulate production for short periods.

Meanwhile, nutritionists look ahead and see such developments as these in dairy cattle feeding:

MORE GRASSLAND farming, including better forage preservation and a continued increase in use of grass and legume silage.

MORE SCIENTIFIC and skillful



Compared with the old system of raising a calf on whole milk and skim milk, the use of modern milk replacers and calf starters has cut the cost of feeding calves. Figures on feed costs, excluding roughage costs, show that a typical modern program can reduce by as much as 40% the value of the feed required to raise a calf to eight months.

A comparison of feeding programs will show the profitable advances:

IN 1930, SOME calf starters were used to replace cows' milk, but even under the best conditions, the calves were usually fed whole milk for three to four weeks and then a gruel made from the calf starter before being changed to a completely dry ration. Most of the calves were raised on a combination of whole milk and skim milk.

A typical 1930 program to raise a calf to eight months involved the use of about 550 lb. of whole milk and 2,900 lb. of skim milk, in addition to about 900 lb. of a grain mixture and all the good quality roughage the calf would eat. With all of this milk being used and at present prices, the cost of feeding the calf to eight months, exclusive of roughage cost, would add up to around $80, depending on area or value of milk.

PROGRESS was being made, though, and nutritionists developed a program including a limited amount of milk fed with a dry starter. A typical 1940 program to feed a calf to 8 months included 350 lb. of whole milk, 225 lb. of calf starter and 1,000 lb. of a mixture of grain, linseed meal and bran, plus roughage. Again excluding roughage and figuring costs at 1955 prices, such a program—by limiting milk — reduced the eight-month feed cost by about 30% from the 1930 level.

UNDER A 1955 program, the calf gets colostrum milk for one to three days and then receives little or no milk. It is put on a completely manufactured ration, including a milk replacer and a dry calf starter, with the replacer being discontinued after a few weeks and the starter being continued until the calf is around 16 weeks old. When you add up the value of the milk, the milk replacer, the calf starter and a relatively inexpensive dairy feed mixture, you find that the eight-month feed cost, exclusive of roughage, can be reduced by as much as 40% from the level for the 1930 program.

On top of these savings, growth rate is hiked and mortality is cut substantially. Calves on a modern program will gain at a rate about 10 to 25% ahead of good 1930 standards during early life.

use of improved concentrate feeds to supplement roughage and pasture; greater use of urea and other nonprotein nitrogen to help stretch protein supplies and make more economical feeds.

INCREASED USE of by-product feed materials; residues will be improved by fortification with missing nutrients; improvement of feeds by fermentation may increase; dairy cows will probably be used increasingly to convert coarse, bulky products and other by-products not useful for man or for poultry and swine into milk.

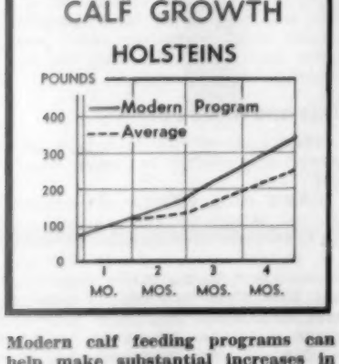
GREATER USE of special feeds, such as feeds to prevent milk fever and ketosis.

IMPORTANT ADVANCES will result from a greater knowledge of what goes on in the rumen and why; more will be known about supplying the nutrient requirements of the rumen microorganisms and about making feeding materials more valuable.

Calf feeding . . .

While feeding of milk cows has improved, there have been more dramatic changes during the past 25 years in feeding dairy calves. The results of the nutrition research and improved feeds have included bigger, healthier calves, raised at substantially lower costs. Death losses are much lower and the calves get a start which results in greater milk production.

The progress in calf feeding was stimulated by the desire to market more milk and the fact that changes in marketing practices made less skim milk available on the farm.



Modern calf feeding programs can help make substantial increases in growth rates. Records kept on a number of Holstein calves on a milk replacer and calf starter program showed their average weight at four months was about 25% greater than what is considered a good average for the dairy industry.

Changing feeds . . .

Illustrating the changes in feeds is this comparison:

IN 1930 A CALF starter generally was not used, but when it was, it may have contained: corn meal, ground oat groats, red dog, linseed meal, ground malted barley, blood flour, limestone, bone meal and salt.

TODAY THERE are two feeds. A milk replacer might include: dried skim milk, soy flour, whey solubles, antibiotic, phosphorus, vitamins A and D and trace minerals and a complex vitamin supplement. A commercial starter today might include corn, oats, linseed meal, soybean meal, dried skim milk, dehydrated alfalfa meal, fish solubles, wheat germ meal, antibiotics, and vitamins and minerals—vitamin B_{12}, riboflavin, pantothenic acid, niacin, choline, vitamin A, vitamin D, phosphorus, calcium, salt, manganese, iron, copper, cobalt and iodine.

Actually the changes cannot be seen just in the materials used; what counts are nutrients, and there is a better knowledge of needs and how to supply the necessary protein, vitamins, minerals and energy. Also, the modern formula includes an antibiotic. The same wonder drugs that have boosted gains in swine and poultry are used in calf feeds to increase growth, reduce scours and produce healthier and thriftier animals.

The benefits of good calf feeding now carry over into the animals' milk producing job, too. Heifers are heavier when they are bred and they get into milk production faster.

After the calf feeding period, good feeding of the heifer also is important. In fact, nutritionists say that an important advance in dairy feeding has been the feeding and managing of growing heifers under certain programs so that they are large enough to be bred more generally at 14 to 15 months and come into production at two years of age instead of 2½.

. . . Not by Feed Alone

Today's scientifically formulated feed can help produce some amazing growth and production results. But the best feed in the world can be wasted on birds or animals which aren't properly housed or cared for. The same thing is true for poultry and livestock which don't have the built-in capacity to grow or produce efficiently.

That's one reason why the feed industry's help and advice on management and feeding have been so important in the ever-improving animal agriculture. The industry, along with college and extension men, has helped farmers set up profit-making programs of breeding, management, health control and feeding.

American Feed Manufacturers Assn. Photo.

Feed manufacturers and dealers have prepared and distributed literature to help farmers. They've held meetings and conducted demonstrations. They have stimulated more interest in record keeping which can show farmers the weak points in their operations as well as the most profitable techniques. Feed men have gone out on farms to advise and help on programs which make the difference between profitable and unprofitable operations.

They have shown, for example, where debeaking broilers gave 11% more grade A's, reduced feed per pound of bird by .1 lb.; where less feed in the trough cut wastage from 29% to 1%; where cooling water in hot weather improved beef cattle gains 28%; where lack of access to water had reduced calf gains 24%.

Even with all the improvement in average feeding results, today's feeds can perform still better to the extent that they are used with well managed animals of superior breeding. The profit-boosting potential is there, and feed men have helped show how it can be obtained through better, scientific farming. They have helped close the gap between college and other scientists' findings and actual practice on the farm.

Farmers Benefit in Two Ways

Part of every bushel of grain which a miller or processor buys becomes a by-product; part of every animal which a meat packer slaughters becomes a by-product. At one time, many of these by-products had little or, in some cases, no value; and the price a farmer received for his grain or livestock depended largely on the value of the processor's main product —flour, linseed oil, corn starch, beer, beef steak or something else.

Today the by-products are more valuable than they once were, and the farmer gets a better price for his grain or livestock because of it. The by-products are worth more because scientific feeds and feeding have turned them into valuable materials. For example, the left-over materials from distillery operations were once dumped; now they are important feed ingredients. Only two or three years ago, 10,000 lb. of surplus animal fats were used in formula feeds; in 1954 the total was 250 million pounds. In the future, it may be that even feathers and chicken offal will be processed into important feed ingredients.

Research, improvement in the quality of the by-products and feed manufacturers have combined to make the various materials more valuable. At the same time, formula feeds have become better because of the scientific use of these materials.

Thus farmers have benefited in two ways. Their raw commodities are worth more; and the formula feeds they use produce more meat, milk and eggs more profitably.

The feed industry also is an important market for various grains. It thus has widened the market for cash grain, and at the same time the grain, when used in a balanced feed, is a better feeding material. Furthermore, grain which is not marketed is now a more valuable feed. Whether a farmer's home grown grain is fed with a supplement or ground and mixed with a scientifically formulated concentrate, it does a more efficient and profitable job in the feedlot or poultry house.

How much of these by-products and grains does the feed manufacturing industry use? The most recent detailed figures available are for the 1949-50 feeding year. The totals on ingredients used in formula feed then included:

Ingredient	Tons
Corn	6,861,000
Oats	1,923,000
Barley	855,000
Sorghum grains	588,000
Wheat and rye	1,346,000
Animal protein*	896,000
Cottonseed meal	662,000
Soybean meal	3,270,000
Linseed meal	407,000
Peanut and coconut meal	294,000
Gluten feed and meal	804,000
Brewers and distillers grains	424,000
Millfeeds	4,545,000
Hominy	497,000
Alfalfa meal	990,000
Beet and citrus pulp	247,000
Molasses	1,195,000
Total	26,478,000

* Includes tankage, meat scrap, milk products and fish meal.

A PROGRESS REPORT on BEEF CATTLE FEEDS

Beefing Up Beef Profits

The nation's consumers have a real taste for beef. As the standard of living has risen, Mrs. America has put more and more beef on the dinner tab'e.

In meeting this demand, producers have had some valuable help from feed men. Applying college and industry research, the feed industry has helped livestock men and feeders produce more efficiently and economically the additional and higher quality meat.

Let's look at a few figures. Back in 1930 per capita consumption of beef was 48 lb.; now it's 79 lb. a year. Total beef production in 1930 was less than 6 billion pounds; in 1954 it was close to 13 billion. Total cattle slaughter in a year was around 12 million head 25 years ago; now it's about 26 million. Cash receipts from farm marketings of cattle and calves were $1.2 billion in 1930; now the total is up to $5.1 billion. Going back to the early 1920's, 11 or 12% of all farm receipts came from cattle and calves; by 1951 the percentage had jumped to 21.

However, to make their operations consistently profitable, producers have had to feed more efficiently. They've had to get more out of the feeds the cattle carry away to market.

Evidence of the part manufactured supplements have played in boosting beef cattle feeding efficiency is seen in this comparison:

IN 1930, ABOUT 655,000 tons of beef and sheep feeds were manufactured.

SINCE THEN, the volume has tripled; now cattle feeders and ranchers are using some 2 million tons of manufactured feed a year.

And the potential for this improved feeding is much greater as research workers continue to unlock the secrets of the animal's rumen, or paunch.

Most of the present knowledge of ruminant nutrition has developed in just the last few years, and the results are evident in the many new feeding practices, including the use of modern supplements, range cubes, urea and hormones.

Most home grown feeds fed to fattening beef cattle do not carry enough of all the essential nutrients to get top performance. Supplements are needed—supplements which put speed into the ration, get more gain from a given amount of home grown feed, help improve the "bloom" and selling price.

Eighty-five per cent of all the nutrients consumed by beef cattle come from roughage feeds. Therefore, lowering the cost of beef production must come mostly through better conversion of roughages into efficient growing and fattening rations.

Exactly that has been done through the use of scientifically formulated supplements containing certain ingredients—with particular attention to protein, vitamins and minerals—which are basic to balancing the diet for cattle.

The rumen is a remarkable piece of equipment, and the bacteria which inhabit it can break down and convert indigestible roughages into usable nutrients. But to properly feed ruminants on high roughage diets, recent research shows, the animals must get a supplement which contains the necessary nutrients to nourish the bacteria and also meet the daily requirements of the animal. If the feeds are to be used effectively, a supplement must not only feed the steer; it also must nourish the bacteria in the rumen.

Some changes made . . .

With the increased knowledge of ruminant nutrition, drastic changes have been made in the type of supplements used to balance the ration for growing and fattening cattle.

IN THE EARLY 1930's the typical supplement was composed of straight oilseed meal, with occasionally a small amount of mineral added.

TODAY, there are modern supplements containing a variety of ingredients to do a more efficient job. A typical supplement is the well known Purdue supplement, which is adapted to balancing a wide variety of roughages. It contains soybean meal, molasses, dehydrated alfalfa meal, bone meal, salt, cobalt and vitamin A and D concentrate.

Other supplements also have been developed or adapted by other colleges and the feed industry.

The most efficient feeders are making much better use of roughage, including low grade roughage, and they are feeding these modern supplements to make it possible. In addition to making better use of low grade roughage, feeders are using higher quality roughages such as silage along with more supplement and more complete supplements to get faster and cheaper gains.

Nutritionists point out that high quality roughages, including pasture, hay or silage, continue to be of most value; but when good quality roughage is not available, the feeder now can use his low quality roughages economically.

Modern Developments . . .

IN PERHAPS THE MOST important advancement, the lowly corn cob, as well as other low grade roughages, has been turned into a valuable feed for roughing and growing cattle. Cattle will grow surprisingly well on roughages such as cornstalks, cottonseed hulls, straw and many similar materials if the diet is balanced. In a comparison some years ago—with a former standard ration of clover-timothy hay and minerals—the use of corn cobs and supplement cut the cost of gain for steers from 28¢ to 16¢ a pound.

THE AVERAGE of total digestible nutrients in many roughages is 30 to 40%. If these roughages are properly supplemented, the digestibility rises to 60 to 65%.

THROUGH THE USE of a modern supplement, cattle can use large quantities of roughage and reach a choice grade with much less total consumption of grain than formerly. When cattle were full-fed on corn for long periods of time, it required 75 to 100 bu. of corn to produce prime steers, 50 to 60 bu. for choice steers, and 20 to 30 bu. for good steers. With the improved supplements and the use of large quantities of roughage, choice grade beef can be produced with 25 to 30 bu. of corn—about half the amount previously required.

COLLEGE TESTS have shown that cattle can be fattened for market rapidly and at costs of only 16 to 19¢ per pound by using large amounts of roughage and limited grain and/or supplement feeding.

CORN SILAGE, when fed with a modern supplement, has produced 1,400 to 2,000 lb. of beef per acre of corn. Choice cattle have been produced with a daily gain of 2.25 lb. or more at a cost of 18 to 19¢ per pound. Other silage also can be used as the only roughage. No longer is it necessary to feed dry hay, for the nutrients formerly supplied by high quality hay can now be built into a supplement.

What does a modern supplement supply for the steer and the bugs in the rumen? In addition to protein, it supplies energy, certain vitamins, minerals, and—something which science has shown to be very important—unknown factors which stimulate gains in cattle. This stimulating effect has been found in dehydrated alfalfa meal, molasses, yeast and other materials which may be included in supplements.

This and more . . .

There's all of this in today's improved beef feeding, but much more, too.

UREA AND OTHER non-protein sources of nitrogen can replace part of the protein in feeds, thereby making possible other savings. Fifteen years ago, practically no urea was fed. Now 50 to 60 thousand tons of urea are being used each year in cattle and sheep rations.

ONE OF THE MOST striking developments has been the results obtained with the hormone-like substance stilbestrol in beef cattle supplements. Iowa State College and other experiments, with all types of rations and different types of cattle, showed stilbestrol stimulated 'gains

Beef Cattle Gains Boosted by Hormone Feeding

The steers in these two pictures were used in a test of stilbestrol feeding. The stilbestrol-fed steers (left) gained 2.83 lb. a day. The other steers, on the same ration minus the hormone, gained 2.35 lb. a day. The use of stilbestrol reduced feed cost by about 2¢ per pound of gain. At the end of the fattening period, the hormone-fed steers were 80 lb. heavier.

an average of 20% and reduced feed costs an average of 11%. The cost of gain has been cut 2 to 4¢ per pound.

These results mean potentially something like this, just in terms of steers being fattened: Assume for sake of illustration that 8 million steers are fattened each year; that 300 lb. of gain are put on each animal during this fattening period; that the feed cost is reduced 3¢ per pound. This adds up to a tidy saving of $9 per animal and $72 million for the 8 million steers fattened.

MEANWHILE, OTHER research has indicated the possibility of making use of those wonder drugs—antibiotics—to boost growth and reduce feed costs with beef cattle. In a recent experiment, an antibiotic improved the rate of gain and feed efficiency and reduced the cost of gain by 2¢ per pound. Eventually, nutritionists say, antibiotics may become a daily part of most cattle supplements.

In addition to putting on cheaper gains and chopping months off the time needed to put a 1,000-lb. steer on the market, modern feeding has contributed to the fact that 450-lb. beef calves at six month's weaning time are becoming more the rule than the exception. This is because of better feeding through the cow and/or in the creep.

To get a good calf crop, it takes more than some poor roughage which is likely to be lacking in protein, vitamin A and minerals. The right kind of supplement during the gestation period has frequently brought a 10 to 20% increase in the calf crop.

Also, creep feeding of calves has paid off in heavier and better calves and reduced cow weight loss.

In connection with the job of producing better calf crops, many ranchers in the Southwest have found that use of a well balanced, fortified range cube returns dividends in an increased calf crop and prevention of calf losses after birth. During the fall and winter when grass is scarce, breeder cattle must get additional feed if body weight is to be maintained and other nutritive needs met.

FOR MANY YEARS ranchers have fed straight cottonseed or other protein cake.

BUT NOW, AFTER research the past 10 years, ranchers have seen the value of a high quality cattle cube. These scientifically formulated cubes can supply additional needed carbohydrates, along with protein. And they can provide vitamin A, vitamin D and essential minerals. A typical modern range cube might include oilseed meal, urea, milo or corn, molasses, alfalfa meal, vitamins A and D, phosphorus and trace minerals.

The importance of vitamin A in range feeding may be seen in a Texas field test in which the addition of 10,000 units of A per pound range cubes resulted in a 10% larger calf crop than was produced by animals with the same cube minus vitamin A.

In a western state the value of supplemental range feeding was demonstrated in a test indicating that the protein and phosphorus content of the most important grasses met the minimum requirements of cattle in only three months out of the year.

There are other cattle feeding developments, too. It has been estimated that worms cost cattlemen an average of $3 an animal. But low level feeding of the drug phenothiazine is aiding in solving the problem of intestinal parasites. Another addition to range cubes in some areas is a high level of salt; the cube is fed free-choice and the amount of feed intake is limited by the salt intake.

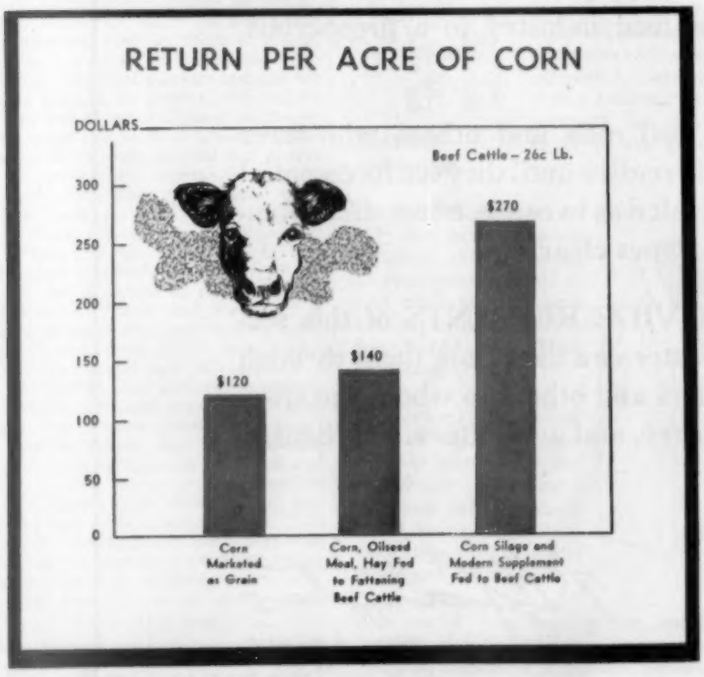
Feeds of the future . . .

What about the future in beef cattle feeding?

ALTHOUGH SCIENTISTS have identified certain nutrients required for efficient beef production, there are many which are not yet known. Eventually, it's predicted, supplements for beef cattle will become as complex as those used for swine and poultry. Feeds will contain more of the essential nutrients in the right amounts and balance. Gradually researchers will be able to determine all of the factors essential for top utilization of grain and roughages.

ALSO, A LOOK into the future indicates that high roughage material, such as dehydrated ground corncobs, may find even more use in furnishing sound nutrition in some mixed cattle feeds. There is a growing demand for complete rations which include both roughages and concentrates and which can be mechanically fed and reduce labor costs.

Much progress has been made, but there is still more to be learned about harnessing the rumen functions—more about what nutrients and how much of each are needed in feeding the rumen bugs; more about the possibility of using additives other than nutrients; more about the possibility of making low quality roughages as nutritious as high quality roughages by proper supplementing.



An example of the use of modern cattle supplements is the feeding of such supplements with corn silage, thus making maximum utilization of roughage as well as the corn in the silage. In the illustration above, a little over 1,400 lb. of beef were produced with a supplement and the silage from an acre of corn. The steers were fattened to choice grade. If shelled corn from an acre had been fed with oilseed meal and hay, less beef would have been produced; if the corn had been marketed as grain, the dollar return would have been less. Returns were figured on the basis of recent prices for supplement and oilseed meal; beef cattle at 26¢ lb.; corn at $1.50 bu.; 15 tons of silage per acre; 80 bu. of corn per acre when husked. Feeding returns are those after deduction of costs of supplement or oilseed meal and hay. The actual corn in the silage consumed by a steer in a 160-day period was only about 21 bu.

Getting the Facts Into the Feed

How many milligrams of the vitamin riboflavin does a 100-lb. pig need every day? How much calcium? Or protein? How much does a 25-lb. pig need? The feed manufacturer has to have the right answers to questions like these in order to formulate the best posible feeds.

Through the vast amount of research work done over the years, a lot of information has been obtained on the requirements of farm animals and poultry for vitamins, minerals, protein and energy. However, this information can't be of value to the farmer unless it's put to work in feeds, and before it can be put to work, it has to be pulled together in readily available form.

Gathering Feed Research Data

The chief work in developing nutrient standards has been done by the Committee on Animal Nutrition of the National Research Council. The council is an organization of scientific men in all fields, and among its many units is the animal nutrition committee—made up of nutritionists from colleges and experiment stations, and also the feed industry.

From the many reports on experiments, these nutritionists have developed data on nutrient requirements for farm animals, and these standards have been used as guides in formulating modern rations.

Thus, there is a lot of basic information behind the formulation of every feed. All of this data, along with continuing new research, has made it possible for the feed industry to develop profitable feeding programs.

96c Here, 40c There=$ $ $

Various chemical materials—synthetic vitamins, growth promoting substances and drugs, for example—are very important in today's precision feeds, with their profit-making growing power. The benefits, in fact, add up to many millions of dollars for feeders.

Among the dramatic results are those obtained with antibiotics. Iowa State College figures the value of feeding antibiotics to swine in this applied "pig-omics":

Man Power Savings

20 sows (Av. Iowa farm herd) × 7 pigs per litter = 140 pigs
140 pigs × 230 av. market weight = 32,200 lb. pork
322 (cwt.) × 1.5 man power hours required per cwt. pork = 483 hours
483 man power hours × 10% faster gains = 48.3 hours
48.3 hours or six 8-hour days of labor saved!

Feed Savings

322 (cwt.) × 20 lb. feed saved per cwt. = 6,440 lb.
6,440 lb. feed saved × 3½¢ per lb. = $225.40 value of feed saved.
$225.40 (feed saved) — $90.39 (cost of antibiotics) = $135.01 net saving.
$135.01 ÷ 140 pigs = 96¢ more profit per hog, on feed savings alone!

If you multiply 96¢ by an annual hog slaughter of 80 million, you have a potential annual feed saving for the swine industry of $72.8 million.

But that's not all. Washington State College scientists estimate the value of antibiotics in poultry feeding like this:

Broilers—On the basis of average increase in feed efficiency and growth rate, the industry's returns are hiked more than $20 million annually through nutritional use of antibiotics. And that doesn't include benefits from use of high level antibiotics.

Turkeys—An exacting experiment showed the value of antibiotics during the developing season averaged 40¢ per turkey. That's not counting the benefits in the first 8 weeks of the poult's life, when results are very striking. So, assuming a very conservative figure of 40¢ per turkey, the nutritional use of antibiotics still benefits the industry to the tune of $20 million a year over and above the cost of the antibiotics.

Still another example of the benefits of chemicals and drugs: Use of drugs in feeds to prevent coccidiosis has reduced losses from this disease by an estimated $112 million annually.

All of these things — antibiotics, arsenicals, hormones, drugs, synthetic amino acids, antioxidants, powerful vitamins, etc.—are an example of the complex nature of today's feeds, and they also help show how modern developments have meant millions of dollars in extra benefits for farmers.

The two antibiotic-fed pigs on the right weigh almost exactly the same as the three pigs on the left which were fed the same diet without the antibiotic.

THE PRESENTATION on the preceding pages of this section has one main purpose: To show clearly and graphically the most important change in the business of agriculture that has occurred in the past 25 years.

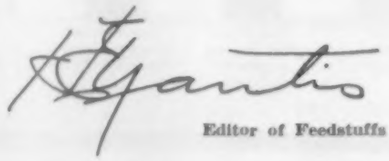
IT IS LOGICAL THAT Feedstuffs should adopt this as a project for its 25th anniversary, because this industry newspaper has covered the period of sensational progress in breeding, nutrition and management that has been responsible, to a large extent, for the development of a prosperous animal agriculture in the United States.

THIS SECTION OF Feedstuffs is addressed to the feed buyer and user, and to those educators and other counsellors whose interests largely or primarily are agricultural. These include the Vo-Ag teachers, the County Extension workers, the country bankers and editors, the small town business men—yes, and the consumers of meat and dairy and poultry products.

IT IS IMPORTANT that all of these groups know what research has accomplished to increase production of basic foods. It is equally important for them to know how research has been applied, profitably for the feeder, economically for the consumer. It is in this application that the formula feed industry has played a vital part. It demonstrates the relationship of the formula feed industry to a prosperous, growing animal agriculture.

IT IS A STORY that even feed men and others who have shared in its development may not fully realize until they see its essential facts brought together and properly related as to cause, effect, and potential. Then the power of the message becomes clear.

FEEDSTUFFS WILL PROVIDE REPRINTS of this section to its eligible advertisers so the latter can distribute them through their own channels to the nation's feeders and others to whom the story should be told. We believe that the industry, and agriculture, will benefit.



Editor of Feedstuffs

Comments on Changes and Trends in Feeding Dairy Cattle

25th FEEDSTUFFS ANNIVERSARY

— Dr. J. K. Loosli —

Cornell University

Feeding milking cows can be considered both an "art and a science." Changes in the art of feeding milking cows have not been great during the last 25 years, but the science has made phenomenal advances. The art of feeding at its zenith is practiced mostly by herdsmen who strive for records of production.

Although new records are established constantly, the relative improvement is less in this area than the increases in milk production achieved by the average dairyman. For example, Bella Pontiac in 1921 produced 27,017 lb. of milk, 1,259 lb. of fat in 365 days. She was fed about 25 lb. of corn silage daily, all the excellent quality alfalfa hay she would eat, and 30-37 lb. of a concentrate mixture made up of linseed cake 6 parts, wheat bran 2 parts, crushed oats 2 parts, corn gluten feed one part and cottonseed meal 12 parts. Today we would use a lower protein feed but the record is still an enviable one.

It becomes increasingly difficult to raise the best records each decade, but the average can be improved more easily.

During the past quarter century the science of nutrition has given explanations for many of the happenings previously known to occur. Elimination of many of the frank deficiencies, such as those of iodine, calcium, phosphorus, cobalt and vitamin A, has been possible because we have learned, in general, the importance and function of these nutrients, the areas and feeds deficient and the amounts of each needed for health and production. Furthermore, the benefits of these discoveries have been made available to the average dairyman through the expansion of markets for the special feeds and products involved.

In the 18th edition of Henry and Morrison's "Feeds and Feeding," a recommended mixture for dairy cows was: ground corn 22.5%, corn gluten feed 35, linseed meal 20, and wheat bran 22.5%. No mineral additions were thought to be necessary. At that time the feeding standards included recommendations only for digestible protein, total digestible nutrients and dry matter. Some of the minerals were known to be essential for animals, and while vitamins A, B, C, D and E had been discovered, it was not known that they were important in feeding farm animals.

The essential nature of the trace

(Continued on page 97)

EDITOR'S NOTE: Some interesting comments on past and future developments in dairy feeding are provided in the accompanying remarks by three authorities in dairy cattle nutrition. The articles are not detailed reviews of dairy nutrition; instead they provide views and thoughts on significant developments in feeding.

— Dr. L. A. Moore —

U.S. Department of Agriculture

Prior to 1930 there was considerable interest in energy metabolism and protein requirements. By this time, much of the work on calcium and phosphorus metabolism had been completed, although considerable was published on the subject after 1930.

Following, and for probably five years previous to 1930, most of our scientists interested in dairy cattle nutrition turned to studies of vitamins and other minor mineral elements. Therefore, our most important contributions have been in this area during the period of 1930-55.

(Continued on page 97)

— Prof. Paul M. Reaves —

Virginia Polytechnic Institute

The feeding of dairy cattle is on a much improved level from the average feeding in the 30's. While there were some good feeders then, there were many cows milked in the summer which were dry all winter and received very little feed.

At that time there was still a considerable number of cows classed as milk cows that were wintered on corn stover, grass hay, straw and nubbins.

The benefit of feeding balanced rations was being realized, and as a result some very high protein feeds were being fed to balance the low grade roughages. The 24% feed came into its own for this reason. Heavy grain feeding of a high protein content got the reputation of tending to burn out the cows.

There was a tendency for the purebred breeders to test a few top cows and feed them well. Often the other members of the herd fared rather poorly. Even with this, the high individual cow records in the herd 25 years ago were no greater than many of the herd averages today.

A change in the roughage ration has been basic. For instance, the earlier use of over-ripe, over-cured

WHEAT MIXED FEEDS

UNIFORM QUALITY GUARANTEED

EXCELSIOR MLG. CO. ATLANTIC 7152

712 FLOUR EXCH. MINNEAPOLIS, MINN.

Simplifies Fortification . . .

Cuts Production Costs . . .

Reduces Overhead . . .

Dawe's PRESCRIPTION SERVICE

Buying your vitamins, trace minerals and antibiotics premixed by Dawe's Prescription Service eliminates the errors and losses caused by unskilled labor handling costly materials in minute amounts. Yet, you pay for ingredients only. Think of the convenience and savings!

Handy batch-size bags simplify final mixing—assure accuracy. Just add a bag of your special premix to each batch of feed, that's all. Easy to handle, easy to use. More savings! More convenience!

One order replaces scattered buying. One product replaces many individual ingredients . . . eliminates shortages and unbalanced inventories. Automatically stops chief causes of waste and shrinkage.

You center responsibility for stability and potency of your fortifier . . . assure yourself and your customers of uniform, generous fortification . . . hold old customers, make new ones. You have more time to concentrate on the main job—sales. Any way you figure, Dawe's Prescription Service means an improvement in your business operations.

Real savings on feed fortification operations are available to your company through Dawe's Prescription Service. This valuable service enables you to buy your vitamins, trace minerals and antibiotics *custom-blended* to your own prescription and *custom-packed* to meet your own requirements. And it can easily cost you much less than what you are now doing!

Dawe's, the pioneer of multiple vitamin fortification, is your best source of custom blends. As the world's oldest and largest specialists in vitamin products for feeds, and as basic producers of both vitamins and antibiotics, Dawe's offers you the widest selection of ingredients and the most complete service, including helpful cooperation with your own nutrition department.

Any combination of vitamins, trace minerals and antibiotic are available through Dawe's Prescription Service. Your company can save money and increase efficiency through this time-tested service. Send the coupon now. There is no obligation.

Dawe's Laboratories, Inc.

4800 S. Richmond Street Chicago 32, Illinois

Dept. FS-55

How can we make real savings using Dawe's Prescription Service? Please send detailed information.

NAME_____

FIRM_____

ADDRESS_____

CITY_____ ZONE_____ STATE_____

World's Oldest and Largest Specialists in Vitamin Products for Feeds

UP AND DOWN > SIDEWAYS | ACROSS

•••ANY PLACE ON THE MAP

D. C. A., Inc.
Chicago 4, Illinois
3608 Board of Trade
Tel.—Wabash 2-0028
Teletype—CG 1188

T. D. F. Company
Chamber of Commerce
Buffalo, New York
Tel.—Madison 2823
Teletype—BU 484

BETTER BROKERAGE SERVICE

Harris-Crane, Inc.
221 So. Church Street
Charlotte, North Carolina
Tel.—EDison 2-6148
Teletype—CE 164

Schuster Feed Company
405 Merchants Exchange
St. Louis 2, Missouri
Tel.—Central 1-5541

Charles J. Koelsch Grain Co., Inc.
209 Grain & Flour Exchange
Boston 9, Massachusetts
Tel.—Hancock 6-3115
Teletype—BS 587

We are linked together to give you better service in all commodities. Our nationwide coverage, with private leased wires connecting all offices, assures prompt, efficient brokerage service. Try us on your next transaction.

BROKERS IN FEED INGREDIENTS

grass hay that was easy to handle was being replaced by legume hay cut in earlier stages. This gave much higher production but at the same time gave the farmer a great deal of trouble in curing the hay. This brought in the barn curing methods of handling these high quality legumes.

Corn and sorghum were about the only crop considered for silage at that time. During the past ten years grass and legume silage has come into wide use.

Pasture feeding which is reported now to supply about a third of the feed nutrients of the dairy cow in the South has been improved largely by the use of supplemental pasture and special dairy pastures. The earlier permanent grass pasture was usually unfertilized. It furnished a lot of grazing in the spring, and if there were surplus grass, the cow could eat this mature grass through the summer and fall, probably increase body weight but decrease production to a rather low level. In 1925 at a farmers' convention in one of the southern states, a dairy husbandman told a group that if August lasted long enough, the dairy cows in the South would starve to death.

Supplement Needs

Along with improved pastures and roughage feeding there is more recognition today among dairymen of the need of a grain mixture supplementing the roughages. The great feeding capacity of the cow lets her consume large amounts of these roughages, which make heavy feeding less likely to cause digestive troubles. But the capacity is limited, and concentrates must be called upon to furnish the additional feed nutrients. With our great milk producing potentials, more milk making materials are necessary.

The dairymen today recognize more than in previous times that the supplemental feeding must take care of not just the average cow in the herd but the high producers, and it must take care of these at the height of their lactation. To meet these needs, the concentrate feeds:

(1) Must be high in TDN and energy (1 lb. of average grain mixture requires the same space in the cow's rumen as 7/10 lb. of hay; however, it supplies twice as much TDN).

(2) Must contain supplementary minerals when needed in the specific locality.

(3) Must supply added vitamins that are essential, such as in milk replacements, calf starters and dry cow rations.

In some cases the addition of antibiotics to calf feeds to give growth stimulus and decrease scours is recommended, and corrective feeds which appear to lower the incidence of milk fever and of acetonemia may offer further possibilities.

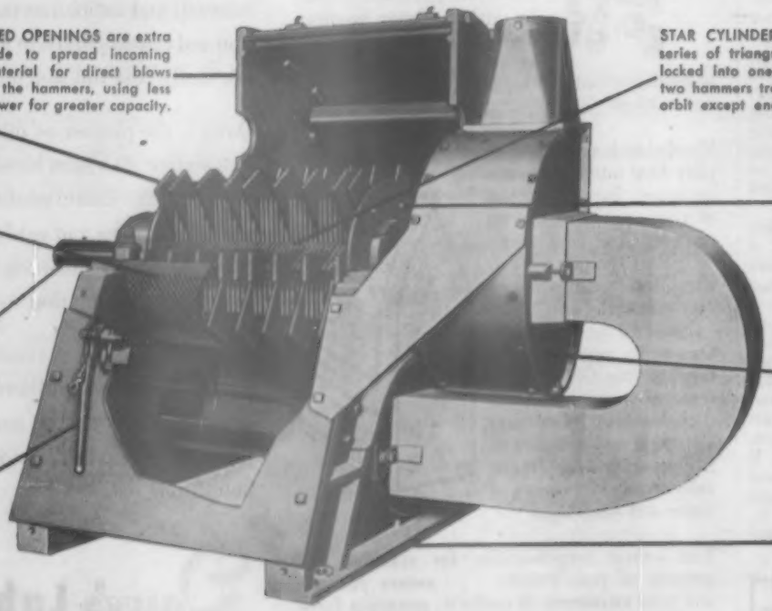
There have been more by-products available in recent years, such as citrus pulp and molasses and dehydrated sweet potatoes.

The use of non-protein nitrogen for replacing some of the protein for ruminants has made dairymen less dependent upon the high protein meals. The greater value of distillers solubles, especially in milk replacements, is decreasing the need for some of the animal protein in milk replacements.

In Virginia in the 30's there was considerable sour cream sold from the farm, and large quantities of farm butter were made. This left skim milk on many farms for raising calves. The market changed from selling sour cream and farm butter to selling whole milk to condenseries in the '20's and '30's. This did not leave skimmilk on the farm, and a period of years passed with not too good results with calf meals.

In recent years, however, research has pointed the way for satisfactory milk replacement feeds to be used. These feeds are being made of high energy, low fiber feeds, including

HERE'S THE SECRET . . . of W-W's LEADERSHIP!



HAMMERS are tipped with Tungsten Carbide much harder than the hardest steel or other alloy. Carbon steel bodies will not break.

FEED OPENINGS are extra wide to spread incoming material for direct blows of the hammers, using less power for greater capacity.

STAR CYLINDER assembly is a series of triangular steel plates locked into one solid mass. No two hammers travel in the same orbit except end hammers.

SCREENS are available with perforations from 1/32" to 2" and may be changed by simply lifting the grinder hood.

HAMMER PINS may be removed to replace hammers. Just one pin need be removed for changing one entire row of assembled hammers.

CYLINDER SHAFTS are oversize and extra heavy. On the three largest models, shafts are of special forged alloy steel which has been normalized and cannot warp.

BLOWERS are made of heavy plate and are perfectly balanced. Fan blades are bolted on for easy, economical changing.

HOLD-DOWN LEVERS enable operators to snap hood open with a minimum of effort. Holds hood tight in closed position.

MAIN FRAME is made of extra heavy grey iron to cut down vibration and resist corrosion — has wide spread base.

YOU EXPECT MORE . . . and MORE IS WHAT YOU GET!

Take an inside look at these features. Is it any wonder that W-W Hammermills have led the profit parade for over a half century! See how each feature complements each other . . . so that you get the most out of your grinding time. Make a thorough examination of the W-W Hammermill and you'll find why it is smoother running and requires less horsepower than any on the market. And it is rugged enough to handle your grinding problem. Available in eight standard models or designed to meet your specifications. Make it a point to write today for a complete catalog.

W-W GRINDER CORP. . . . DEPT. 311 . . . WICHITA, KANSAS

some animal protein, distillers solubles, vitamins, minerals and antibiotics. The advantage of pelleting feeds for calves has extended over into some of the other feeds.

DR. J. K. LOOSLI

(Continued from page 95)

mineral elements, cobalt, copper and manganese, had not even been suggested. It was known that vitamin B (thiamine) was formed by rumen bacteria, but the other members of the vitamin B complex were unknown. The synthesis of amino acids was not suspected.

During the last 2½ decades the need of animals for minerals and vitamins has become rather general knowledge. These feeds and also the antibiotics have been made available to dairymen through feed stores at reasonable cost.

The use of special supplemental feeds has made it practical to make much wider use of by-product feeds and still have complete feeds as useful as the natural, unprocessed cereal grains.

Future Trends

It is evident there will be increased use of by-product feeds for dairy cattle. Residues will be improved by fortification with the missing nutrients. Improvement of feeds by fermentation will increase.

Dairy cows will probably be used increasingly to convert coarse, bulky products and other by-products not useful for man or for poultry and swine into milk.

In the years ahead, cattle will certainly continue to utilize the land that is less useful for fruits, vegetables and food crops.

Dairy Calves

In feeding dairy calves the trend has been away from liberal whole or skim milk to limited amounts of marketable fresh fluid milk and the greater use of milk by-products and special processed feeds.

This trend will continue as the human demand for milk increases. This will mean greater demand for special processed feeds and supplements which stimulate early rumen function.

DR. L. A. MOORE

(Continued from page 95)

In the vitamin field, the most important contributions have naturally been concerned with vitamins A and D since these are the only two required by dairy cattle. Knowledge gained about vitamin A has helped explain some difficulties in reproduction of dairy cattle.

However, in relation to vitamins A and D, the most important effect insofar as rations are concerned has been with calves. Most rations or calf starters for dairy calves contain some source of vitamins A and D. The requirements of cows and calves for vitamins A and D are now fairly well established.

There was, of course, some work with the so-called "B complex" with dairy cattle during this period. However, it has been shown that the bacteria of the paunch are able to synthesize these factors so that no food source is necessary.

Minerals

In the minor element field the recognition of cobalt deficiency in particular areas has been the most significant finding, in my opinion. In areas where cobalt is deficient in the feeds, it is now possible to maintain a profitable dairy enterprise by the addition of cobalt to the dairy ration.

In the 1930's, there was some tendency to use "shot gun" minerals in dairy cattle rations. We now have a better understanding of mineral requirements so that the rations are more nearly tailored to actual needs. In my opinion, we are still suffering from a hangover of the 1930 period insofar as calcium is concerned.

The solving of the mineral excesses has also contributed to more efficient production. The two outstanding practical examples are selenium and fluorine.

Probably the most significant change that has taken place in the rations of dairy cows and is just now making itself felt is the shift to grassland farming and improved procedures in preservation of forage crops.

Actually, most of the increase in milk production during the period of 1930-50 can be accounted for by increased concentrate feeding or increased energy intake.

The actual make-up of energy sources in our production rations probably has not changed greatly during the past 25 years. We now include more of the by-products than previously. Fat per cent has been lowered somewhat by more effective extraction procedures with the oil meals.

The protein sources have changed to a greater use of soybean meal, but the level of protein has probably not changed a great deal.

The greatest feeding change has taken place in calf rations. We now use calf starters, a shorter period of milk feeding, and more recently milk replacers have been developed. These changes have been dependent upon research and a better understanding of nutritional requirements. The use of antibiotics in calf rations appears to have had some beneficial effect in growth stimulation.

In looking toward the future, it is evident that grassland farming will play a considerable part in the production of milk. The use of urea and such materials will probably increase under certain conditions. The use of thyroprotein for short periods may be economically feasible under certain conditions. Use of molasses as a source of carbohydrate will increase.

I see no reason why we should not shoot for an average annual production of 10,000 to 12,000 lb. of milk per cow, compared with our present average production rate of about 5,500 lb. This will be accomplished through a combination of breeding and better feeding.

Artificial breeding association cows now being tested in DHIA are now producing about 10,000 lb. of milk per year.

CHEMICAL LABORATORY SERVICE
FOR ANALYSIS OF
WHEAT, FLOUR, GRAIN, FEED, SOYBEANS, ALFALFA MEAL
DOG FOOD, TANKAGE, TALLOW, FISH MEAL, ETC.
HALLENBECK INSPECTION & TESTING LABORATORY
51-54 PEARL ST. BUFFALO 2, N. Y.

SAVE UP TO $100.00 PER TON

MAKE YOUR OWN 'DRY D'!

USE NEW

BO-DEE

MINERAL STABLE VITAMIN D_3

The most revolutionary development in the past 16 years. The only Mineral Stable D with a history of 2 years' research with mixtures containing ground limestone, steamed bone-meal, calcium phosphate, magnesium sulfate, ferrous sulfate, copper sulfate, manganese sulfate, cobalt sulfate, iodized sodium chloride.

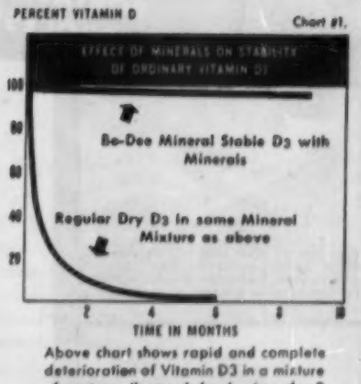
HERE'S HOW TO MAKE A FULL TON OF FRESH DRY D

with the usual 10% margin of safety! First . . . you simply put 2,000 pounds of carrier (soybean meal, corn meal, etc.) in your mixer. Second . . . you add the contents of one hermetically sealed tin (16½ pounds) of BO-DEE (Mineral) STABLE VITAMIN D_3 powder to the carrier. Then, mix until homogeneous. (Time varies with equipment—usually about 20 minutes.) Finally, you sack in the usual manner, affixing identification tags which are furnished free with each tin, upon request.

WHAT IS BO-DEE Mineral STABLE VITAMIN D_3?

It's a free-flowing powder, guaranteed to be stable in the presence of most minerals for a period of 6 months. And remember this! When you make your own DRY D, you insure the quality of your product from start to finish—and, more important, you save up to $100.00 per ton! . . . with the usual 10% margin of safety!

Product of N. V. PHILIPS-ROXANE—*The Netherlands.*



Above chart shows rapid and complete deterioration of Vitamin D3 in a mixture of customarily used feed minerals 9 parts minerals to 1 part Vitamin D in cereal carrier.

Send for technical descriptive booklet.

BOWMAN FEED PRODUCTS, Inc.

HOLLAND, MICHIGAN

THE BOWMAN GROUP

Chicago Office
600 S. Michigan Ave.
Chicago 5, Ill.

Standard Sales Co.
202 Cochran Bldg.
P. O. Box 426
Meridian, Miss.

George O. Adams
147 Wallace Avenue
Buffalo, New York

Arch Sales Company
1406 East 47th Ave.
Denver, Colorado

Feed Associate, Inc.
196-198 North Court St.
Marysville, Ohio

K. S. Crittendon, Inc.
120 East Third Street
Charlotte, N. C.

Vitamin Headquarters, Inc.
1097 S. Marengo Avenue
Pasadena 5, Calif.

M. A. McClelland Co.
Dwight Building
Kansas City, Missouri

Grady J. Parkerson & Co.
166 Howell Street
Dallas, Texas

Kindstrom-Schmoll Co.
415 Flour Exchange
Minneapolis, Minn.

Frank Seitz Sales Co.
1510 31st Street
Des Moines, Iowa

Durgin & Company, Inc.
116 Foundry Street
Wakefield, Mass.

New York Office
220 East 42nd St.
New York 17, N. Y.

Ulrich Chemical Co.
31 East Georgia St.
Indianapolis 6, Ind.

TURKEY FEEDS—1930-1955

By Dr. J. R. Couch
Texas A&M College

EDITOR'S NOTE: One of the important developments of the past 25 years has been the tremendous growth of the turkey industry and the market for turkey feeds. Of interest to feed men will be the accompanying review of important advances in turkey nutrition and turkey feeding results by Dr. J. R. Couch of the departments of poultry husbandry and biochemistry and nutrition, Texas A&M College, College Station. In addition, Dr. Couch presents an up-to-date summary of modern and future data and trends in turkey feed formulation.

25th FEEDSTUFFS ANNIVERSARY

It can be stated that the average mature weights of the various breeds of turkeys have been increased somewhat during the period of 1930-1955. The greatest improvement, however, has come about through an improvement in the type of turkey. In 1930, a long legged, rangy turkey prevailed as the standard. Between 1930 and 1940 the so-called "baby beef" type of turkey, with a wider and shorter breast, shorter legs and, in general, a thicker, heavier set body, was developed. During the same period the Beltsville Small White breed was developed to meet the demand of the housewife for a smaller bird for the table.

Heavy losses resulted from infections of pullorum disease, coccidiosis and blackhead in the early 1930's. The National Poultry Improvement Plan has practically eliminated pullorum from turkey flocks through a well regulated system of blood testing and removing reactors. Typhoid has been reduced through the same procedure. Coccidiosis has been brought under control by the introduction into the industry of a number of coccidiostats. If outbreaks do occur when the preventive level of the coccidiostat is being used, therapeutic treatment can be initiated to prevent or minimize losses. Drugs have been introduced which control blackhead. This is no longer the problem that it was prior to 1950. Hexamitiasis, though not as serious a turkey malady as the other diseases mentioned above, appears to have been brought under control through the introduction of new drugs during the past year.

Dr. J. R. Couch

1930 Starter Feed

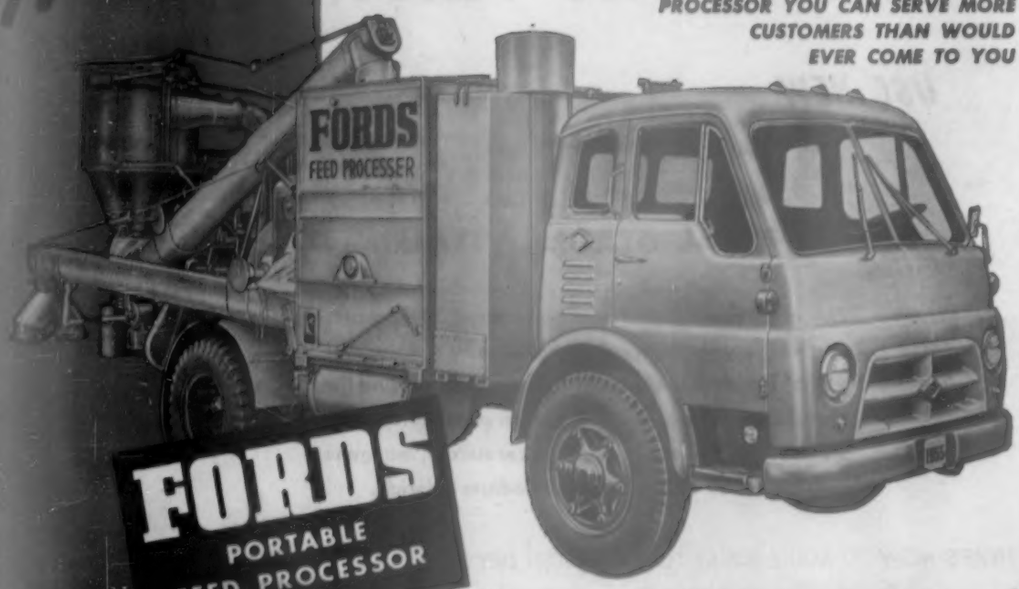
A typical turkey starter formula for growing turkeys in 1930 contained 40% mill run, 30% ground corn, 10% alfalfa leaf meal, 15% dried milk, 5% bonemeal and 1% salt. Dried milk was a standard ingredient in feeds between 1930 and 1940. This product is not utilized to a large extent at the present time. One milk product which is utilized in turkey feeds at the present time is dried whey or some variation of this product.

It is apparent from the feed formula listed above, that it was low in protein, not balanced with regard to minerals, deficient in vitamins and certainly would not have supported the growth which all turkey raisers expect today.

Between 1930 and 1940 the protein requirement of starting, growing and finishing turkeys was established to a very large extent. It is now recognized by the feed trade that the protein requirement of turkeys is from 26 to 28% during the first eight weeks, approximately 20% during the next eight to ten weeks and about 16% during the finishing period. The amino acid requirements of turkeys have been established in some instances. It is quite apparent that lysine deficiency can and does occur. This is quickly observed by the turkey raiser through the appear-

NOW... your feed business has unlimited territory!

WITH THIS PORTABLE FEED PROCESSOR YOU CAN SERVE MORE CUSTOMERS THAN WOULD EVER COME TO YOU



FORDS PORTABLE FEED PROCESSOR

...DOES EVERYTHING...ANYWHERE!

GRINDS... All grain... All roughage... Separately or together.

MIXES... All grinds... with or without supplements... with or without molasses.

IMPREGNATES... for better, more thorough penetration of hot molasses, and speeds up blending time.

BAGS... after grinding... after impregnating... or after mixing.

UNLOADS... through auger conveyors direct to bulk storage, wagons or bunkers.

TRANSPORTS... a special Diamond T powered chassis, with power steering for easy handling anywhere the truck will go. Independent power for mixer and conveyors from mixer... direct truck engine drive for high-capacity hammermill operation.

"Experience Engineered" for on-the-farm feed service, this new FORDS Feed Processor will give you the increased tonnage sales of formula feeds, plus more sales of molasses and supplements, to give you the increased volume of business from a vastly increased merchandising area. Backed by over 25 years' experience in building portable milling equipment, this new Portable Processor gives you practical basic design—plus the many "little things" that are so important in giving you fast set-ups, economical operation and trouble-free service.

SEND FOR FREE BOOKLET...

that describes the many time saving, money making features of the new FORDS Portable Feed Processor... Features that will increase tonnage for you—and let you save money for your customers.

NATIONWIDE SALES SERVICE

MS MYERS-SHERMAN CO.

Manufacturers of FORDS Hammermills • Molasses Blenders, Vertical Mixers • Corn Shellers • Pneumatic GrainVayors

2301 S. ILLINOIS STREET, STREATOR, ILLINOIS

Cable Address: Parrheim

P&H GRAIN • FLOUR • FEEDS •

Domestic & Export

PARRISH & HEIMBECKER LIMITED

Export Office — TORONTO, CANADA

WINNIPEG — CALGARY — MONTREAL

BAGS BURLAP COTTON PAPER PLAIN OR PRINTED TRUCK COVERS TWINES

MAX KATZ BAG CO.

INDIANAPOLIS, IND.

How many of these B·Y® values are you missing

from your present source of

Unidentified Growth Factors

B·Y VALUE 1

Unidentified Growth Factors

You put vital unidentified growth factors into your feed when you use CSC B·Y Butyl Fermentation Solubles. Nothing on the market gives comparable value. Made from dried grains and whole cane syrup, the B·Y's are produced specifically for the feed industry — are designed to supplement your feed with natural fermentation growth factors.

B·Y VALUE 2

B Vitamins

A bag of B·Y gives you extra B vitamins as shown by the following typical analysis:

B Vitamin	*Mg. per ton of feed from 50 lbs. of B·Y*
Pantothenic Acid	4,875
Niacin	2,250
Folic Acid	88
Para Amino Benzoic Acid	1,190
Biotin	17.5
Pyridoxin	108.5
Thiamin	14.5
Inositol	38,200
Choline	36,360
B_{12}	6.5

B·Y VALUE 3

High Protein—Low Ash

You get 25% protein. In addition, you get all feed—100% feed value. No filler. No "dead" weight. Low ash — which means non-laxative.

B·Y VALUE 4

Amino Acids

You get liberal amounts of such important amino acids as cystine, tryptophane, methionine, glycine, lycine and arginine.

B·Y VALUE 5

Four Riboflavin Potencies

You can choose from four different B·Y riboflavin potencies. They are all the same except for the riboflavin content:

B·Y Basic — contains approximately 30 mg. per lb.
B·Y-100® — Guaranteed to contain 45.4 mg. per lb.
B·Y®-250 — Guaranteed to contain 113.5 mg. per lb.
B·Y-500® — Guaranteed to contain 227.0 mg. per lb.

B·Y VALUE 6

Guaranteed Supply!

B·Y supplies can be guaranteed by contract. B·Y production is constant year 'round. All batches are the same. Never any deviation in quality. And remember, that the B·Y's are not by-products, waste products or residues. They are basic fermentation supplements produced expressly to help you build better, more profitable feeds. Available in 50 lb. bags and also bulk carloads. Write today for samples and additional, helpful information.

Animal Nutrition Department

COMMERCIAL SOLVENTS CORPORATION CSC

260 MADISON AVE., NEW YORK 16, N. Y.

For trouble-free service and a fine mixing job there's nothing like a **Brower Mixer**

Says S. E. WICKRE
Livermore Feed Mill
Livermore, Ia.

"Our Brower Mixers have given us excellent, trouble-free service and operate efficiently and economically. For our money, there's nothing like a Brower Mixer for making quality feeds at low mixing cost per ton. Our only repair bill on our 6-year-old 2,000-lb. mixer has been a set of new belts. The 700-lb. mixer has not needed any repairs whatsoever and it's in good workable condition."

BROWER
Whirlwind
MIXERS

The dependability, fast mixing action and low cost operation of Brower Mixers have made them the favorite of feed dealers everywhere. Mixes a perfect blend in approximately 10 minutes—at a power cost from 3c to 5c per ton. Above and below floor models. Five sizes—mixing capacities of 700, 1,200, 2,000, 3,000, and 4,000 lbs. per batch. Heavy welded steel construction. Gives years of trouble-free service. Many exclusive features.

30-DAY TRIAL. Write for full details

BROWER MFG. CO., 402 N. 3rd St., Quincy, Ill.

World's Largest Selling Mixer!

PIEHL'S ALFALFA MILL

BLISSFIELD, MICHIGAN

—Dealer in—

Dehydrated and Suncured Alfalfa Meal—Hay & Straw

ance of white feathers in the Broad-breasted Bronze breed.

Vitamins have been isolated, the structure established and efficient methods of production have been initiated to the extent that vitamin A, vitamin D_3, riboflavin, niacin, choline, pantothenic acid, folic acid and vitamin B_{12} are now available to the feed trade in quantity and at reasonable prices. It is extremely important for the feed manufacturer adequately to take care of the vitamin additions to manufactured turkey feeds.

Protein Concentrates

The 25-year period in question has seen a tremendous change in the availability of protein concentrates which are available to the feed industry. The principal addition to the list of ingredients in this regard has been soybean oil meal. This product was unknown as a feed ingredient in 1930 and today makes up the major portion of the protein supplement in turkey feeds manufactured in most sections of the U.S. Research has shown that soybean oil meal contained a trypsin inhibitor, which was destroyed by heating. Yet, if the meal was overheated, the biological value of the protein was decreased; and the amino acid availability of the individual amino acids in the protein was decreased. This was particularly true of the sulfur containing amino acids.

Cottonseed meal was being utilized in poultry feeds to a limited extent as a protein supplement in 1930. Shortly after this time, it was determined that the feeding of cottonseed meal caused the yolks of eggs to change to an olive color and the whites to have a pinkish tinge if the eggs were allowed to remain in storage. This deterioration of egg quality has been traced to gossypol, a high molecular weight alcohol, found in cottonseed. Improvements in the method of processing have tended to increase the biological value and decrease the gossypol content of cottonseed meal to the extent where this product can now be used in turkey feeds at a level of 8 to 10%.

Fish meal is without question the best protein supplement which is available for use in turkey feeds. The principal problem in this instance is the fact that the supply of fish meal is not adequate to meet the demand, and feed manufacturers must use vegetable protein concentrates, such as soybean oil meal and cottonseed meal, in formulating turkey feeds. Meat and bone scraps can also be used as a protein supplement in the formulation of turkey feeds. It is the writer's opinion that the level of meat and bone scraps should probably not be more than 5 to 6%. This is particularly true with regard to starting and growing mashes.

High Energy Feeds

It has been determined during the 25-year period in question that the fowl does not have the capacity to digest crude fiber. This led to the development of high energy feed formulas, and many of the feed formulas being offered to the turkey grower today are of the high energy type. Recent research studies have pointed out that the turkey does not digest fiber. There is a misconception among turkey raisers to the effect that birds cannot be raised without oats. Oats are worth approximately 70% as much as corn as an ingredient in turkey feeds and should be used to replace corn only when the economical relation between the two are of this magnitude.

One of the most phenomenal discoveries in the field of animal nutrition was the announcement in 1950 to the effect that antibiotics would increase the growth rate of chickens and turkeys when added to the feed at the surprisingly low levels of 4 to 10 grams per ton of finished feed.

All of the developments listed above have decreased the length of time required to finish a turkey for market. Between the years of 1930 and 1940, from 32 to 36 weeks were required to finish a turkey for market. At the present time turkey raisers are marketing females at 22 to 24 weeks and the males at 24 to 26 weeks of age. The actual marketing age is dependent to a certain extent upon the section of the country where the birds are being raised.

Feed efficiency has improved with the introduction of vitamins, the establishment of the protein requirement, and the use of antibiotics in feeds to the extent that turkey raisers are figuring on from 3½ to 4 lb. feed per pound of meat produced to put the finished product on the market. This is an improvement of 30 to 50% over and above what prevailed in 1930. In some instances, it may be a 100% improvement.

More Data Needed

More data are needed on the nutrient requirements of growing turkeys after eight weeks and particularly on the nutrient requirements of the laying hen for egg production and maximum hatchability.

It has been noted through discussions with turkey breeders and feed manufacturers that it is wise to dispose of the turkey breeding flock after approximately 10 weeks of egg production. Data from the experiments conducted in the department of poultry husbandry of the Texas A&M College System during the past five years has shown that the practice of disposing of the breeding hens after 10 to 11 weeks of egg production is justified. Hatchability decreases rapidly after this period in the laying season and may decrease to such an extent that no more live poults are obtained. It is also apparent from these experiments that the deficiency is nutritional in nature. It was possible to maintain a hatchability percentage of over 80 in the 1954 season by adding alfalfa, fish solubles and vitamin E to the breeder diet.

Turkey raisers should select for high egg production and high hatchability as well as for proper feathering and body conformation. It is the problem of the nutritionist to provide the proper nutrients in adequate quantities to meet the turkey laying hen's requirements for maximum egg production and hatchability over a longer extended period of time which might even range through an entire year.

1955 Turkey Feed

The 1955 turkey feed should contain a mixture of protein sources so as to properly meet the amino acid requirement of the starting, growing, finishing or laying turkeys. It is anticipated that the actual protein requirement of the various classes of birds may be decreased when more is known about the amino acid requirements. Methionine is now being used as an additive to turkey feeds by a large number of feed manufacturers. It is believed that the actual protein requirement of starting turkeys could be decreased if adequate supplies of lysine were available to the feed manufacturer today.

Feed manufacturers are adding 3 to 4 grams of riboflavin, 10 to 12 grams of calcium pantothenate, 35 to 40 grams of niacin, 800 to 1,000 grams of choline, 6 to 12 mg. of vitamin B_{12}, 6 to 12 million units of vitamin A, and 1 to 1½ million units of vitamin D_3 to each ton of feed. The cost of such additions is quite reasonable when compared to the cost of adding protein or providing a source of energy in turkey feeds.

The four antibiotics which are presently used in turkey feeds with the level indicated per ton are as follows: penicillin, 4 grams; Aureomycin, bacitracin or Terramycin, 10 grams. There is some indication to the effect that combinations of antibiotics may produce increased growth responses. It is believed that a big improvement can be made in turkey raising by increasing the levels of either of the antibiotics listed above in the turkey feed. It is believed wise to use a soluble antibiotic in the drinking water of young

poults during the first four to seven days. This is a critical period in the life of the poult. The cost of such a practice is quite low when the cost of an individual poult that may die during the first week is considered.

High level antibiotic feeding in the range of 50 to 200 grams per ton is certainly indicated when growing turkeys go off feed or have to be raised under conditions where there is a high disease level. Enough data are now available whereby the practice of high level antibiotic feeding can be recommended without reservations where a high disease level exists or when the poults go off feed.

Arsonic Acid

Experimental data have been accumulated during the past four years which clearly show that it is a wise practice to add an arsonic acid to the feeds of starting and growing turkeys. There are two accepted arsonic acids being used at the present time: 3-nitro-4-hydroxy phenylarsonic acid (45 grams per ton) and arsanilic acid (90 grams per ton).

The mineral requirements of the turkey have been established at 2% calcium, 1% phosphorus and about ½ lb. of manganese sulfate per ton of feed. Additional research on the mineral requirements may change these figures somewhat; however, it is known that feed manufacturers may use levels of minerals within these ranges with good results.

Chief Cost

The chief cost of producing turkeys is still that of providing a source of energy whereby the birds may convert feed into meat. It was pointed out earlier in this paper that the poult cannot digest fiber. High fiber containing feeds should be used only when there is an economic advantage to the turkey raiser in doing so.

Feed manufacturers should make every effort to formulate a high energy feed for all ages and types of turkeys insofar as can be done when the cost of the various ingredients is taken into account. Such a practice will result in more profit for the turkey producer. Corn remains as the base and is the carbohydrate feed of the highest energy content. Grain sorghums are very close to corn in this respect. Feed manufacturers should certainly calculate the productive energy content of the various ingredients and take such calculations into account when formulating turkey feeds.

It is predicted that fat of some types will be added to turkey feeds in the future.

Research presently in progress may also result in the addition of hormones to turkey feeds which will assist in producing a more desirable finished carcass.

Glidden Company Fills Indianapolis Grain Post

INDIANAPOLIS — Morris W. Champion has been named manager of grain merchandising for the Glidden Company's Indianapolis elevator. He assumed his new duties May 2, according to the announcement made by Willard C. Lighter, Glidden vice president in charge of the company's chemurgy division.

Associated with grain merchandising activities during his entire business career, Mr. Champion had been a partner in the Winslow Grain Co. since 1947. Prior positions included managerships at the Indianapolis offices of Thomson & McKinnon and the James E. Bennett & Co. He also served the latter firm as manager of its Terre Haute office.

SOUTHWELL GRAIN
CORPORATION
MERCHANTS–BROKERS
Buyers of OATS and CORN
CHAMBER OF COMMERCE BUFFALO 2, N. Y.

Mill Is 100 Years Old But Its Service Is Strictly Up-to-Date

By Al. P. Nelson

The Old Grist Mill, Waupaca, Wis., which celebrated its 100th anniversary last year, has a philosophical placidity which shows that the mill, its ownership and employees have retained some of that serenity of past generations which carried them through numerous hardships.

For the modern, cost-conscious farmer who wishes the best in poultry, hog and dairy feeds which will feed-out and leave quite a few nickels of profit in his pockets, this mill can supply him. And if the farmer has his own grains to be ground and mixed with concentrate, he can get such service, too. Or he can get poultry and livestock remedies and other farm supplies. And he can also get qualified poultry and livestock advice and help from Phineas Walker, manager, and his staff.

The mill was built by George Smith in 1854 and came into the Walker family in 1880. Although the old grist mill, which once had water power, is more than 100 years old, its machinery, products and service are up-to-date.

No Celebration

Phineas Walker says that no attempt was made to have a gala celebration for the company's 100th anniversary. He and his men would rather concentrate on giving the farmer good service and doing consistent newspaper advertising than to tap a sales promotional budget for a celebration. The Walker Co., a lumber and hardware firm in colorful Wautoma, has owned the Old Grist Mill for many years, and that company in its advertising often stresses items such as poultry equipment, which is sold at both the lumber and feed stores.

The large office of the Old Grist Mill is a very unusual place. It has a friendly atmosphere which farmers like and one can find a group of them there almost any season of the year talking about feed, community or other topics.

Mr. Walker has a hobby of collecting old pictures of the Waupaca community and has perhaps the best col-

ADVERTISEMENT — This is a paid advertisement. Prepared by U. S. Industrial Chemicals Co.

U.S.I. FEED NEWS

VOL. II, No. 5 ★ A SERIES FOR SCIENTISTS AND EXECUTIVES OF THE FEED MANUFACTURING INDUSTRY ★ May, 1955

Good Growth, Efficiency Obtained with Low Protein Levels

Further proof that synthetic amino acids play an important role in conserving protein is seen in a recently reported feeding trial with turkey poults. In this test, a 22% protein diet plus .05% each of lysine and the essential amino acid methionine produced growth and feed efficiency equal to that of a standard 28% turkey starter. Both rations contained adequate amounts of vitamins, minerals, and other nutritional growth factors.

Whether with high or low levels of protein, U.S.I. DL-methionine helps increase returns over feed cost by improving growth and feed efficiency.

NRC Booklet on Rabbit Nutrition Now Available

The National Research Council has made available a booklet entitled "Nutrient Requirements for Rabbits" which contains latest information on rabbit nutritional requirements, deficiencies, rations, and feeding practices.

According to this report, growth in rabbits increased as the niacin content of the diet was increased up to 10 mg. per kilogram of body weight. However, the highest level of niacin fed was 10 mg. per kilogram and the possibility remains that for optimum growth, niacin needs may be higher than this figure.

The report also suggests that while vitamin K may not be needed for normal growth, it is required for successful reproduction of rabbits.

Simplified, High Energy Broiler Ration Gives High Quality "Market Finish"

A new and simplified high energy ration which reportedly improves the "market finish" of broilers, roasters, and capettes has been developed by research workers at the University of Connecticut*. This new ration was pelleted and fed as 50% of the total feed, along with the regular broiler ration for the last 7 to 10 days before the birds were to be marketed.

Good Results

Reported results were based on field trials and controlled feeding tests. In every case, market finish as measured by skin color and abdominal fat was superior in birds receiving the finishing ration. In one controlled feeding test involving 8 lots of 100 birds each, the birds receiving the finishing pellets had feed efficiency improved 12% and the yield of dressed birds improved 1% over birds fed cracked corn instead of the pellets.

Increased levels of vitamin B_{12} in broiler finishing rations will improve pigmentation, fleshing — resulting in high quality birds which bring better prices at market time.

High B_{12} levels used

Development of this new formula was based on earlier research suggesting that vitamin B_{12} was associated with fat deposition in the body. *Prompted by these findings, vitamin B_{12} levels were increased to 24 milligrams per ton of feed—considerably above the levels generally recommended for broiler rations.*

The results obtained during these tests tend to confirm the role of vitamin B_{12} in fat deposition and the value of this vitamin in improving the quality of finished birds. DPPD was also added to the ration because of its beneficial effects on pigmentation.

In more recent, unpublished experiments, higher than normal levels of vitamin B_{12} have been used in rations for day old birds through to market age with improved finish and pigmentation reported.

Ingredients used

The new, simplified high energy ration contained the following ingredients per ton of feed:

Ground yellow corn	1700.0	lbs.
Std. wheat middlings	200.0	lbs.
Soybean oil meal (50%)	100.0	lbs.
Salt	10.0	lbs.
Potassium chloride	10.0	lbs.
Niacin	40.0	grams
DPPD	0.25	lbs.
Vitamin B_{12}	24.0	mgs.

*Progress Report No. 8, Storrs Agric. Expt. Sta., (1954), L. D. Matterson, F. A. Ryan, Anna Kozoff and Lawrence Potter

Methionine Increases Percent of Settable Eggs

Supplemental methionine reportedly has increased from 80 to 85% the number of settable eggs produced during recent feeding trials. The results obtained during these tests point to potential economic value for methionine supplementation in breeder rations.

FEED PRODUCTS OF U.S.I.

- U.S.I. ANTIBIOTIC FEED SUPPLEMENTS (bacitracin and procaine penicillin)
- U.S.I. VITAMIN B_{12} SUPPLEMENTS
- U.S.I. MENADIONE MIXES (vitamin K_3)
- CURBAY® B-C 90, dried molasses fermentation solubles
- SPECIAL LIQUID CURBAY® molasses distillers condensed solubles
- YACATONE® 40, molasses distillers dried solubles
- U.S.I. RIBOFLAVIN PRODUCTS
- U.S.I. CHOLINE CHLORIDE (25% dry or 70% solution)
- U.S.I. NIACIN
- U.S.I. CALCIUM PANTOTHENATE Products
- U.S.I. DL-METHIONINE (feed grade)
- U.S.I. PERMADRY (sealed-in vitamin A)
- U.S.I. VITAMIN D_3 (stabilized)
- U.S.I. CUSTOM MIXES (vitamins and antibiotics to meet your specifications)

BRANCHES IN ALL PRINCIPAL CITIES

U.S.I. INDUSTRIAL CHEMICALS CO.
Division of National Distillers Products Corporation

99 PARK AVE. NEW YORK 16, N. Y.

®Reg. U.S. Pat. Off.

100 YEARS OLD—The Old Grist Mill in Wautoma, Wis., has retained the flavor of long ago but has kept pace with latest advances in the feed business. Founded in 1854, the mill is managed by Phineas Walker. This view of the mill faces Main St. and a heavily traveled state highway.

lection of such pictures in the area. Many of these are posted on the walls of the office. Farmers always like to go there and look at the pictures and remark about them. Naturally this builds traffic, and where there is store traffic there are usually a few extra sales.

Some years ago Mr. Walker also purchased 90 reprints of Currier & Ives prints about old time America, and these are posted neatly on the walls, too. They never fail to hold interest for farmers and their families who come to visit and to buy.

Also on the walls of the office are old copper stencils from the flour milling days and a large oil painting of Wautoma done by Sheldon Walker many years ago.

Jumping Sign

One idea which Mr. Walker has used to move "cat and dog" stock is to rig up a placard and attach it to a rope and pulley and the front door. Then each time the door was opened the sign would jerk up and down. This display idea really has moved some of the otherwise "sleepy" or "out of date" stock at times, Mr. Walker reports.

Farmers who have something to exchange or sell, do not hesitate to bring it to the Old Grist Mill and ask to have it displayed in the large office. Quite a bit of merchandise has been sold by customers in this manner — even antique dressers and chairs. They like the friendliness and cooperation of the management in this and other matters.

Artists Painted Mill

During the summer of 1954, rural artists in the Wautoma region had a rural art day. Local county artists roamed the streets of the resort city sketching people and interesting buildings. The Old Grist Mill was sketched by many of them, and these pictures were exhibited in various stores. Local and state newspapers gave considerable publicity to the event, reports Mr. Walker.

Mr. Walker says that the firm's business is about 50% dairy feed and 50% poultry feed. The firm has a one-ton Haynes mixer and a one-ton Kelly Duplex, in addition to other equipment. Relations with farmers are very good, because the company knows most of the farmers in the area and is acquainted with their feed and farm supply needs.

The credit situation is quite favorable, with the number of delinquent accounts at a minimum. No account is considered delinquent here until the farmer fails to make a payment or contact the management after the initial 30-day period. The farmer who calls at the office after 30 days and makes arrangements to pay his account is not considered delinquent even if paying the balance takes a longer time.

This feed mill manager favors consistent, friendly service to the farmer rather than spectacular promotions. And as one notices the steady number of farmers who come into the store, he can see that this policy works out very well for this mill.

Located on Main Street in Wautoma the Old Grist Mill has a sign painted on a highway-facing wall, which names the mill and the year of its founding.

PURCHASE FEED OUTLET

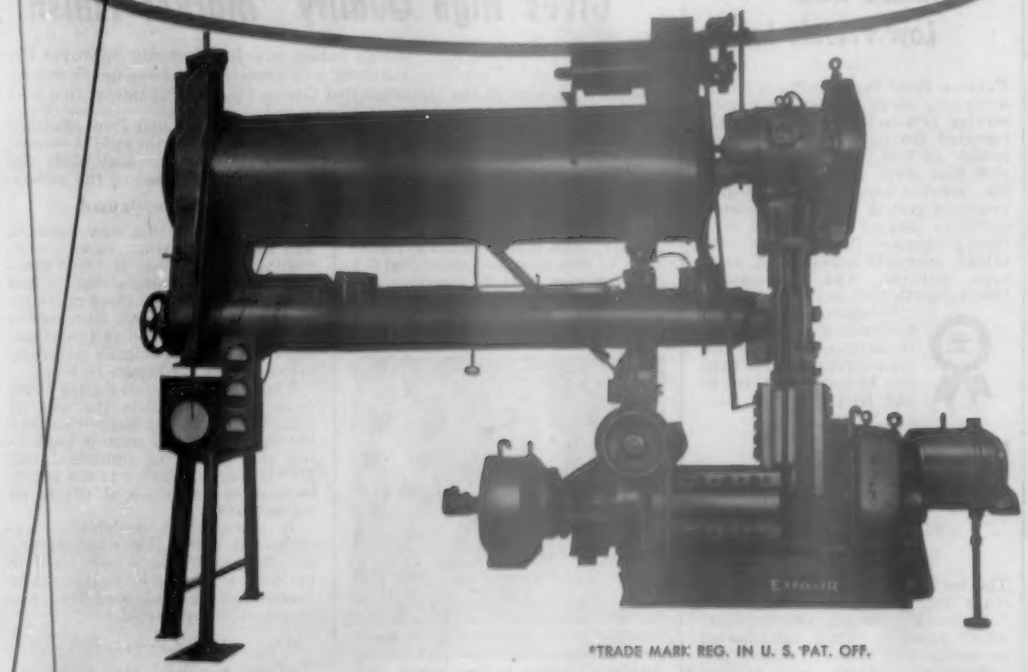
CAMERON, IOWA—Jerry Jennings and Dr. Harold Jennings have purchased the elevator at Cameron, Iowa, near Mason City. They purchased the elevator from the Farmers Cooperative Society, Rockwell, Iowa, and will handle feeds and fertilizer.

EXPAND CORN, WHEAT, PREMIX, HOMINY FEED WITH THE

NEW EXPELLER*

Grain Expanding Process

FOR PRODUCTION OF KIBBLED PRODUCTS



*TRADE MARK REG. IN U. S. PAT. OFF.

Now with the new Anderson Grain Expanding Expeller Process you can convert starchy grains such as corn and wheat into a finished product that is uniformly tender, crisp and highly palatable.

This process completely decharacterizes the grain and makes a virtually 100% carbohydrate conversion of your products to a highly assimilable form. An excellent product is assured by the proper conditioning of the material and by the correct combination of externally applied thermal heat and frictional heat developed within the Grain Expanding Expeller.

A single Anderson Grain Expanding Expeller will handle 24 tons of corn, 70-30 premix, and hominy feed per 24-hour with slightly lower wheat tonnage. Years of experience in the manufacture and servicing of milling equipment have gone into this process to assure low per ton processing costs. Investigate this new process today. We will be glad to send you complete information without obligation. Write for full details today.

Gentlemen: Please send information on your new Expeller Grain Expanding Process for the production of kibbled products.

Name

Address

City State

MAIL THIS TODAY FOR COMPLETE INFORMATION

World's Largest Suppliers of Extraction Equipment

THE V. D. ANDERSON CO.

1944 West 96th Street • Cleveland 2, Ohio

Subsidiary of Chesapeake Industries, Inc.

THE WORLD'S FINEST ALBERTA OATS

JAMES RICHARDSON & SONS

LIMITED

ESTABLISHED 1857

14TH FLOOR, 2 KING ST. E., TORONTO

EMpire 4-8361

Head Office, Winnipeg, Canada

Buy and Sell through WANT ADS —in— FEEDSTUFFS

New additions to a growing stockpile of evidence---

practical starting rations require the WHEY FACTOR, together with other unidentified factors for maximum growth!

• Starter feeds need the Whey Factor to give top growth performance. This has proven true even when practical-type rations already contain the Fish Factor and Grass Juice Factor.

Recent feeding trials at a leading eastern college showed a 7% average boost in growth rate when the Whey Factor was added to a practical-type chick diet already containing the Fish and Grass Juice Factors. The combination of whey with other unidentified factors also produced marked improvement in feed efficiency.

Similar results have been demonstrated in test after test at leading colleges. That's why Peebles' Dried Whey Products build extra grow power into your starter feeds . . . and provide other natural benefits of whey. Important, too: Peebles' Whey Products are today's most economical source of the Whey Factor.

Experiment A — PEN-FED BROILER CHICKS — 8½ WEEKS

BASAL*	DRIED WHEY 2½%	FISH SOL. 2%	LBS. GAIN	FEED PER LB. GAIN
X			2.36	2.68
X	X		2.60	2.60
X		X	2.59	2.59
X	X	X	2.77	2.56

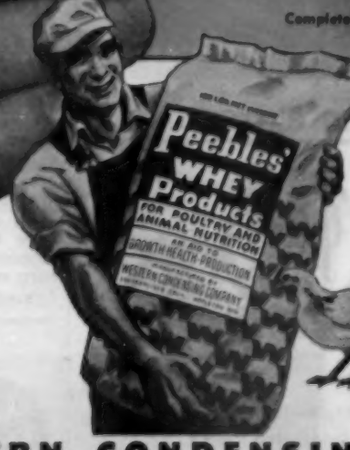
*Practical-type ration containing alfalfa meal

Experiment B — PEN-FED BROILER CHICKS — 9 WEEKS

BASAL*	DRIED WHEY 5%	FISH MEAL 12½%	DEHY. ALFALFA MEAL 5%	LBS. GAIN	FEED PER LB. GAIN
X				3.14	2.61
X	X			3.26	2.82
X		X		3.34	2.42
X	X	X		3.44	2.42
X		X	X	3.23	2.50
X	X	X	X	3.34	2.52

*Practical-type basal ration

Complete report of these and similar experiments available on request.



Peebles' Whey Products in three lactose levels

Peebles' Dried Whey Products offer a choice of three lactose levels for a variety of high-performance rations. Careful laboratory control and inspection assure highest analysis consistency the year around. Coast-to-coast plant and warehouse locations assure prompt shipment.

For free formula service, write the Technical Service Department, Appleton.

WESTERN CONDENSING COMPANY • Appleton, Wis. Petaluma, Calif.

World's Largest Producer of Whey Products

New Developments in Beef Cattle Feeding

By Dr. R. M. Bethke
Ralston Purina Co.

EDITOR'S NOTE: There have been many new developments in beef cattle feeding in recent years. In fact, many of the developments of the past 25 years or so have occurred in just the last few years. In this article, Dr. R. M. Bethke, vice president of the Ralston Purina Co., St. Louis, sums up the new developments and what they mean to the man with cattle on the range or in the feed lot. This summary of the practical application of the new knowledge will be of interest to many feed men. The article is from a talk by Dr. Bethke at Beef Cattle Day at the State College of Washington.

Something new and different has been taking place in beef cattle feeding in recent years. You hear new things discussed, like: feeding corn cobs, citrus pulp, cotton wastes, peanut shells, urea, roughage digestion and utilization, quality of roughage, feeding rumen bugs, trace minerals, stilbestrol, antibiotics, unknown factors, creep-feeding, etc.

Practically all of these terms are foreign to old-time cattlemen. Some individuals still think that all this "new fandangled stuff" is the dream of modern researchers and falls in the "so much baloney class." One chap recently put it as follows: "These new developments in cattle feeding have hit the country almost like an old-fashioned fever or bug."

What's in back of this anxiety or fever? Chances are that if you asked a dozen cattlemen this question, you would get a dozen different answers. The basic answer, in my judgment, is one of just plain economics—dollars and cents.

Cattlemen must make money to stay in business. The cattle market for the past few years has made many cattlemen scratch their heads. Currently, it is necessary to feed and manage out profits rather than depend on a rising market. It puts a premium on proper feeding and management — where it should be for sound business.

Some cattlemen have wondered and

Dr. R. M. Bethke

are wondering if these new developments in cattle feeding will allow them to get more from their grains and roughage. They ask: Will this new "know-how" put on additional gains at lower costs? How does it affect my calf crop? What about quality of roughage in a cattle program? What about these new-type beef supplements? Can more roughage and less grain be used more economically in feeding cattle by making greater use of better supplements? Is it possible to use low-quality roughages and large amounts of the right kind of supplemental feed and come out "on the right side of the ledger?" What about the merits or demerits of stilbestrol in feeding operations? Do antibiotics have a place in cattle feeding? What about urea in cattle supplements?

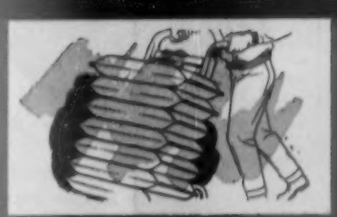
Breeding Herd Nutrition

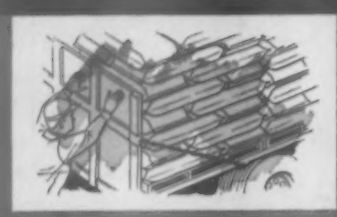
Let's take a look at some of these newer developments. First, let us consider the brood cow and her calf. It is an established fact that proper nutrition of the breeding herd is essential for a high percentage calf crop and for strong vigorous calves at birth. It takes more than plenty of indifferent roughage — which is apt to be lacking in protein, vitamin A, and mineral content—to insure a good calf crop. Such roughages must be supplemented with products that supply the deficient nutrients and that will allow the cow to get maximum feeding value out of the roughage offered or available. A pound or two of the right kind of supplement per head daily during the gestation period can easily result in a 10 to 20% increase in the calf crop.

Creep-feeding of calves has also aroused much interest on the part of cattlemen. Individuals who have tried it have reported that it has paid off in: (a) heavier calves at weaning, (b) up-graded the calves so that they brought more money when sold, and (c) reduced the cow weight loss. Naturally, the extent to which creep-feeding will prove beneficial depends upon the milking ability of the cow herd and the adequacy of the feeding program or the kind of pasture to which the cows and calves have access.

You have read and heard a great deal within recent years about "quality of roughage" in a fat cattle program. You have heard that corn silage, grass silage, poor hays, corn cobs, cotton waste and citrus pulp have feeding value when properly supplemented. The original work with corn cobs served as the stimulus to focusing attention on "quality of

Stak-LOK
on your multiwall bags...
ACTS LIKE A BRAKE!





prevents slipping and improves stacking at no extra cost!

We are extremely proud of our non-slip Stak-LOK outer sheet designed to solve multiwall bag stacking problems all along the line, from production to delivery.

This tough, stubborn kraft sheet "acts like a brake" in stacking . . . creates a high coefficient of friction which does away with the need for creped or other special finish outers, and makes non-skid inks unnecessary. Yet, its rugged surface still prints your brand in the same clear colors you have always used.

Why not ask for samples—now? Better yet, why not call for a demonstration?

KRAFT BAG CORPORATION
Gilman Paper Company Subsidiary
630 Fifth Avenue, New York 20, N. Y. • Daily News Bldg., Chicago 6, Ill.

1 Responsibility
2 Integrated Plants
3 Generations of Bag Experience

D & M
America's Dependable Seed Corn and Seed Oats
THE D&M SEED CO.

Knighthood *is* in Flower

—MERRY MIXER *KNOWS!*

We'd bet a car of alfalfa that neither *Feedstuffs* nor the *American Dehydrators Association* would own up to being Knights in Shining Armour. But to MERRY MIXER, these two are champions of the Dehydrated Alfalfa industry.

In 1942 when the American Dehydrators Association was formed, the group worked night and day bringing together the independent dehydrators under one common banner. And with the editorial support of *Feedstuffs*, the Story of Alfalfa was soon known everywhere.

MERRY MIXER is grateful to the two groups which have helped champion her industry. To her, knighthood still *is* in flower.

MERRY MIXER IS A TRADE MARK OF CONSOLIDATED BLENDERS, INC.

The Gem of Alfalfa Products — *Emerald Brand*

CONSOLIDATED BLENDERS©
INCORPORATED

Dept. F-5, Fremont, Nebr.
Phone Fremont 3555

MIX
PRODULAC
CORN DISTILLERS DRIED GRAINS WITH SOLUBLES

MIX
NADRISOL
CORN DISTILLERS DRIED SOLUBLES

Are you mixing well-balanced formula feeds?

The feeds that promote quicker growth and greater meat and egg yield are the feeds your dealers and their customers want to buy:

Produlac or Nadrisol—Grain fermentation products—now standardized, both products having the same riboflavin content and choline content.

With either Produlac or Nadrisol you can mix highly nutritive formula feeds. These economy fortifiers are practically starch-free but are rich in proteins—vegetable fats—and essential Vitamin B-G Complex factors. They're extremely palatable, too.

By mixing either Produlac or Nadrisol in your formula feeds you can gain and hold customer acceptance. Sold only to manufacturers of formula feeds.

PRODUCTS OF
NATIONAL DISTILLERS PRODUCTS CORPORATION
GRAIN PRODUCTS DIVISION
99 Park Ave. • New York 16, N. Y.

BUY and SELL through WANT ADS

Ralph E. Dower

William C. Roberson

KASCO APPOINTMENTS — Ralph E. Dower and William C. Roberson have been appointed farm feeds sales managers for Kasco Mills plants at Toledo, Ohio, and Waverly, N.Y., respectively, it was announced by Dr. Victor Heiman, director of research and farm feed sales. Mr. Dower was formerly a poultry specialist for Kasco and has had many years of farm experience as a poultry farm operator, hatchery manager and territorial sales manager for an eastern feed manufacturer. He joined Kasco in 1949. Mr. Roberson, formerly district sales manager for Kasco, is a former county agent. He joined the Kasco sales staff in 1947.

roughage" as an important factor in feeding cattle.

In fact the first work with corn cobs demonstrated two new developments in cattle feeding: one, that the feeding value of low-grade roughages can be materially increased when they are properly supplemented, and, two, that the supplement must supply energy, minerals including trace minerals, vitamin A, and unknown factors needed by "rumen bugs," in addition to protein. Other experiments with low-grade roughages showed that such a supplement fed in proper amounts greatly improved the feeding value of such roughages.

Experiments with high-quality roughages such as corn, sorghum, and grass silages also indicated the desirability of using (1) more supplement, and (2) more complete beef supplements in putting on faster and more economical gains.

Let me emphasize that good-quality roughages, whether they be pasture, hay or silage, still have a number one position in cattle-feeding operations and should be encouraged. However, not all feeders have good roughages available. These individuals need economical-proven feeding programs built around poor roughage.

Fundamental Knowledge

The experiments that proved the foregoing statements were not accidents. They were designed to put into practice certain fundamental knowledge accumulated over a number of years. That cattle needed vitamin A had been known for sometime. Also the needs for energy, protein and minerals were well recognized. The needs of rumen microorganisms, although less well known, had been developing for a number of years. The story of rumen microorganisms and the part they play in cattle nutrition merits brief discussion.

Probably the first inkling that rumen bugs are important in cattle nutrition came about 20 years ago in studies with urea at the University of Wisconsin. Workers at that institution showed conclusively that dairy heifers could make use of the nitrogen in urea as a partial substitute for protein. Many experiments since then have shown that urea when properly used is a satisfactory ingredient in cattle rations.

The second inkling that cattle nutrition is different than swine and poultry nutrition came in the early 1940's when it was learned that cattle do not need feed sources of the vitamin B complex so important in swine and poultry feeding. By means of rumen fistuli, or openings into the paunch of cattle, researchers found that the "rumen bugs" were able to produce these B vitamins in adequate amounts to meet the needs of cattle.

Feeding Rumen Bugs

The third major development with "rumen bugs" involved roughage or cellulose digestion — the feeding of the "rumen bugs" in order to efficiently break down the cellulose or fiber of the roughage. It had been known for a long time that cattle and other ruminants could make use of large amounts of roughage. However, the idea of feeding "rumen bugs" so that they could more efficiently digest roughage was new. Also being able to formulate rations or supplements that take into ac-

You SAVE
5 Ways
...with a
BAUGHMAN
Bulk Feed
BODY

You Save On

LOWER PURCHASE PRICE . . . yet beyond comparison on mechanical efficiency with complete hydraulic operation of the stack with fingertip control from the cab.

LOWER MAINTENANCE COSTS . . . fewer working parts and highly efficient engineering gives you steady operation without breakdowns. High tensile alloy steel welded bodies give the strongest possible construction and the biggest payload because the bodies are lighter, yet stronger than carbon steel.

BAGGING AND EXTRA HANDLING. Save up to 35% on your labor cost. Cuts added cost of bagging, sewing, double handling.

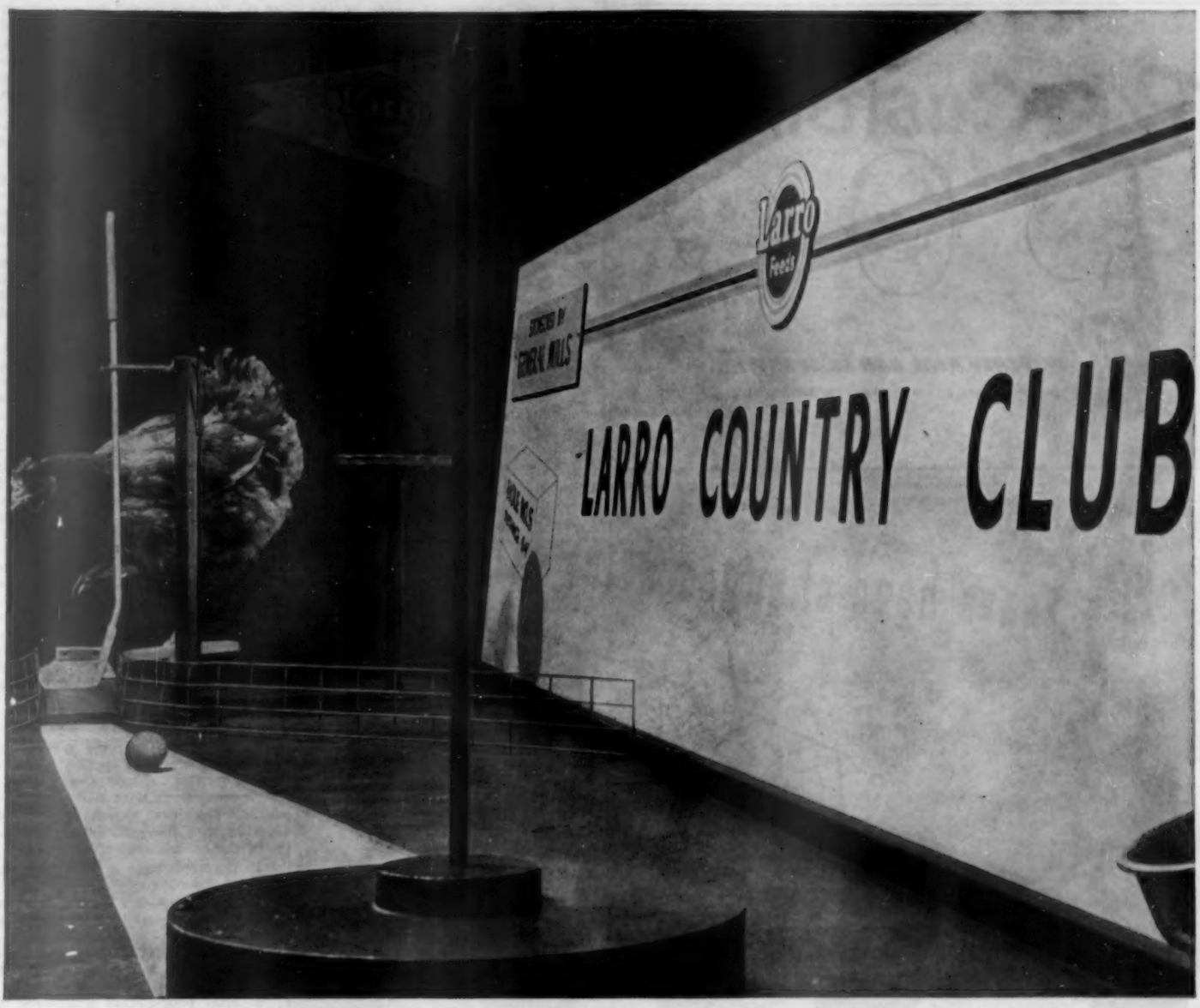
LABOR. It doesn't take a "strong man" to do the job. Baughman does it mechanically—quickly, easily.

TIME. One Baughman Bulk Body can do the work of two bag trucks. That means faster, fresher deliveries for your customers. You save . . . dollars and customers.

Sales and Service from Coast to Coast • Write for Complete Information

BAUGHMAN MANUFACTURING COMPANY
106 Shipman Road Jerseyville, Ill.

DUSTLESS
DEHYDRATED or SUNCURED
ALFALFA MEAL
Made With a Wenger Mixer and
2% Stabilized Animal Fat
BOHLOFF BROS. INC. RFD Grayslake, Ohio



A GREAT CROWD PLEASER, GOLFING HEN SINKS HOLE-IN-ONE ON MIDGET COUNTRY CLUB FOR LARRO DEALERS

SLAMMIN' SAM SUREPUTT NEW FEATHERED "AMERICAN OPEN" CHAMP

"SurePutt" helps Larro Sure Feed Dealers reap golden sales harvest

"American Open" Champ? Well, not exactly, but when Larro Sure Feed Dealers want to attract a BIG crowd, they call for "SUREPUTT", one of General Mills' champion live animal crowd pleasers. Live animals, trained exclusively for General Mills Larro Sure Feed Dealers, do just about anything. That's what makes them such surefire attention getters, and that's why they are so valuable to Larro Sure Feed Dealers.

When Larro Sure Feed Dealers use "SUREPUTT" and the other Live Animal Acts to merchandise their special event celebrations, sales days or baby chick days, they draw bigger crowds than they ever thought possible. Bigger crowds lead to bigger sales. Bigger sales mean a more profitable business.

The General Mills Live Animal Acts are the hottest feed merchandising helps ever offered to feed dealers by any feed manufacturer. This has been proved again and again to the utmost satisfaction of even the most skeptical feed merchant. If you aren't a Larro Sure Feed Dealer and must SEE these acts at work in your own place of business before you'll BELIEVE how powerful they are, drop us a card and we'll put one in on a trial basis. You'll be amazed at the big crowds these animal actors can draw, and we're sure you'll appreciate the bigger sales that result when you use them.

We also invite you to investigate the Larro Sure Feed Franchise. Acquaint yourself with the many additional merchandising helps General Mills offers. For prompt information, at no cost to you, write: General Mills, Larro Sure Feed Division, Minneapolis 1, Minnesota.

WHAT ARE THESE FOLKS WAITING FOR? They want to see General Mills Live Animal Acts. Rest assured the Larro Sure Feed Dealer here rang up some hefty sales as a result of this crowd.

LARRO SURE FEEDS
General Mills
MINNEAPOLIS 1, MINNESOTA

Larro Feeds

TRS-3-54

P/K Customers

PERCY KENT BAG COMPANY, INC.
KANSAS CITY • BUFFALO • NEW YORK

count the nutritional needs of the "rumen bugs" is something new.

In recent years a number of experiment station and industrial research workers have been studying the possible place and use of antibiotics, which are so popular in poultry and swine feeding, in beef cattle nutrition. The reported work on this problem that has come to my attention is not entirely clear-cut in the sense that not all trials have shown favorable results from the feeding of antibiotics. In general, the majority of the reported work shows some increased growth from the feeding of antibiotics in high roughage—medium to low-energy-type rations — or in growing rather than rapid-fattening-type rations.

Hormone Feeding

The discovery that the feeding of the female hormone, diethylstilbestrol, to slaughter cattle increases gains and causes better feed utilization has created about as much interest among cattlemen as the development of the "atomic bomb" did among our human population. The results of more than a dozen separate experiments (experiment station and commercial) that I have seen have shown significant increases in daily gains and better feed utilization when stilbestrol was fed at the rate of approximately 10 milligrams per head daily.

In none of these experiments where shrink, grade, and dressing percentage data were gathered was there a significant difference in these factors between stilbestrol- and non-stilbestrol-fed cattle. Recent data released by Iowa State College also revealed no significant differences in the meat or meat cuts from the hormone- and non-hormone-fed animals.

Some 40 odd years ago Gov. W. D. Hoard of Wisconsin is reputed to have said that "the darkest spot on earth was the inside of a cow." This no doubt was true then, but today considerable light has been shed on what happens inside the cow or steer—through feeding experiments, the use of fistuli in the rumen of cattle, and the artificial or laboratory rumen. The interesting fact is that feed-lot trials have substantiated the principles discovered in the artificial rumen. Conversely it had been known for some time from feed-lot trials that certain formulations or combinations outperformed others even though the protein content and the other then-known nutrient constituents were identical. Work with the artificial rumen has helped to give us an explanation.

Summary

In summary, the more recent experimental work as applied to beef-cattle feeding, including feeding experiments, work with fistulated animals, digestion experiments, and studies with the artificial or laboratory rumen, has revealed:

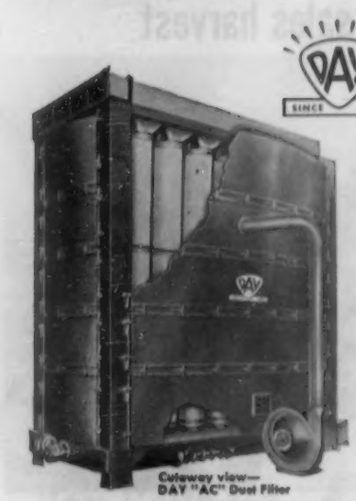
1. That roughage is an important part of the complete ration.
2. That roughages vary greatly in feeding value—and that supplements must make up what roughages lack.
3. That the proper amount of protein (nitrogen) is necessary for best roughage utilization.
4. That poor-quality roughages if properly supplemented can be used for beef production.
5. That grains or high carbohydrate feeds help digest roughages.
6. That urea nonprotein (nitrogen) when properly supplemented and used can serve as an efficient partial source of protein.
7. That certain minerals are important in good cellulose digestion and protein utilization.
8. That certain natural products contain unknown factors that favorably affect protein utilization and cellulose digestion.
9. That adequate nutrition during gestation is essential for a high percentage calf crop and for strong vigorous calves.
10. That creep-feeding of calves can pay dividends.
11. That the feeding of antibiotics might be worthwhile under certain conditions.
12. That the feeding of proper levels of stilbestrol to slaughter cattle results in increased gains, better feed utilization without a significant effect on shrinkage, dressing percentage or carcass grade.
13. That for most economical production, the ration of cattle must supply adequate energy, protein, minerals, certain vitamins, and unknown factors present in certain natural products.

In closing this discussion I want to make it clear that we do not have all of the answers to the most proper and most economical ways of feeding beef cattle—even though a great deal of progress has been made in the last two decades. There still are "unknowns" or many "dark places" in the inside of the cow or steer.

It is research which will help illuminate the dark spots and turn unknowns into knowns.

50 Years have changed a lot of things!

...including DUST CONTROL



Cutaway view—
DAY "AC" Dust Filter

Man's accomplishments in all fields in the past 50 years are nothing short of spectacular. Compare the 12 second flight by the Wright Brothers in 1903 with the 3 hour and 46 minute *non-stop* transcontinental flight made March 9th, 1955. Striking progress in dust control equipment has also been made. When measured against the modern DAY High Pressure Reverse Jet Dust Filter, "rapping" or "shaking" type filters are simply out-of-date.

The DAY "AC" Dust Filter, made under DAY and Hersey patents, is the *modern* filter to match *modern* methods. It handles up to *five* times more dust laden air per square foot of cloth area than out-moded conventional type filters. At the same time this modern DAY Filter requires one-third less plant space.

DAY "AC" filter tubes are cleaned *automatically* and *continuously*. Self-adjusting cleaning rings clean the filter tubes and dislodge trapped dust, using high pressure reverse jet air. This cleaning method improves filtering effectiveness and lengthens filter tube life.

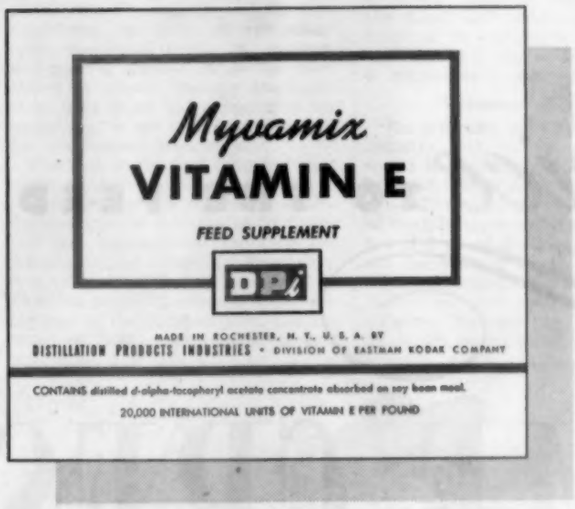
EVIDENCE OF DAY "AC" DUST FILTER EFFICIENCY is proven by the fact that 87% of our filter production is for reorders from users. For detailed information about the modern DAY "AC" Dust Filter write toDAY for your copy of Bulletin 528-R.

19 RALSTON PURINA FEED PLANTS EQUIPPED WITH DAY AUTOMATIC CONTINUOUS DUST FILTERS

DAY Dust Control effectively recovers valuable product, controls dust, reduces dust hazards to a minimum, lowers housekeeping costs. For an effective solution to your dust problem write for Bulletin 528-R.

The DAY Company
819 Third Avenue N. E., Minneapolis 13, Minnesota
IN CANADA: P. O. Box 700, Fort William, Ontario
Branch Plants: Buffalo, Fort Worth and Toronto, Ontario
Representatives in Principal Cities

STOP AIR POLLUTION with DAY DUST CONTROL


Myvamix
VITAMIN E
FEED SUPPLEMENT
DPi
MADE IN ROCHESTER, N. Y., U. S. A. BY
DISTILLATION PRODUCTS INDUSTRIES • DIVISION OF EASTMAN KODAK COMPANY
CONTAINS distilled d-alpha-tocopheryl acetate concentrate absorbed on soy bean meal.
20,000 INTERNATIONAL UNITS OF VITAMIN E PER POUND

This makes **vitamin E** a sure thing in your feed

Rely on the vitamin E in natural seeds and grains to put the vitamin E in your feed and you're taking a chance on two things: (1) there may not be enough there in the first place and (2) what is there may lose its potency in milling, mixing, and storage.

Use a few dimes' worth of Myvamix Vitamin E Feed Supplement per ton and you're *sure* of two things: (1) there will be vitamin E to start with, and (2) it will still be there when the feed is eaten. That's because you start with material you can count on to have 20,000 International Units of Vitamin E to the pound, and the vitamin E is in the *acetate* form that will hold its potency even after storage in finished feed for six months at 100 F. We put the vitamin E in Myvamix on a dry, non-dusting soy meal base that makes it as easy to handle as anything in your mill. For information or a quotation, write to ***Distillation Products Industries,*** Rochester 3, N. Y. Sales offices: New York, Chicago, and Memphis • Charles Albert Smith Limited, Montreal and Toronto.

"Myvamix" is a trade-mark.

producers of* Myvamix *Vitamin E

DPi

Also . . . vitamin A . . . distilled monoglycerides
. . . some 3500 Eastman Organic
Chemicals for science and industry

Distillation Products Industries *is a division of* **Eastman Kodak Company**

Service TO THE FEED INDUSTRY

LIME CREST

TRACE-MINERAL PRE-MIXES

(PATENT APPLIED FOR)

Lime Crest Trace-Mineral Pre-Mixes are designed to help manufacturers make feeds to meet today's requirements . . . conveniently, economically, scientifically. An exclusive blending process insures uniformity and accuracy of composition. All pre-mixes are formulated for effective feed fortification . . . laboratory controlled for maximum quality.

Important too is Lime Crest's leadership in trace mineral research. Lime Crest pioneered the use of better ingredients in pre-mixes. It originated the important principle of using minerals that are more compatible with the fat-soluble vitamins. Today's Lime Crest Trace-Mineral Pre-Mixes reflect our continued dedication to the production of the most advanced products in their field . . . to help you produce better feeds.

"A New Key to Feed Efficiency" tells the story of the development of Lime Crest pre-mixes . . . and their advantages. Send for your free copy today.

Lime Crest BRAND

LIME CREST PRODUCTS

are made by Limestone Products Corporation of America

Dept. A-5 Newton, N. J.

In Canada: The Ash Chemical Company, Board of Trade Building, Montreal 1, P.Q.

World's Largest Producer of Crystalline Calcite Crystals

Makers of LIME CREST CALCITE CRYSTALS — the 3-in-1 calcium supplement for poultry; LITTER-KEPE—the ideal conditioner for poultry litter; Non-Skid BARN CALCITE—for safe, non-skid barn floors.

Feed Industry, Control Work Grow Up Together

By L. E. Bopst

EDITOR'S NOTE: Progress in feed control work has had to parallel advances in the feed industry, and through the years the attitude of control officials, as well as their methods, has changed tremendously. The accompanying article by Mr. Bopst is an especially worthwhile commentary on these developments since he has been particularly close to them as veteran executive secretary of the Association of American Feed Control Officials. He is in charge of feed control in Maryland.

Progress in any field of endeavor may be made along tangible or intangible lines. To one who has watched the development of the feed picture for more than a quarter of a century, it appears that some of the greatest and most far-reaching advances are not capable of measurement by percentages, legislation or other concrete means.

First in this category is acceptance. Anyone connected with feeding for even the last few decades can remember only too well the early consumer distrust of manufactured feeds, and, by inference, the feed manufacturer. It was not many years ago that spokesmen for certain experiment stations were urging farmers to mix their own feeds to insure quality and economy. Today's sales, measured by billions of dollars, speak for the change that has taken place. Growth such as this does not result from advertising and salesmanship alone; it reflects the confidence placed in the manufacturer's integrity by the buying public.

Next in the classification of acceptance is the rise of mutual cooperation between the manufacturer and the control official. The often-repeated classification of the early control official as a sort of policeman is worth mentioning to emphasize the difference between that unenviable status and the official's present primary role of counselor and consultant. As viewed from the official's point, the manufacturer in turn, has lost his original similarity to a scheming opportunist and become a respected businessman supplying products vital to the fundamental needs of the nation. This spirit of working together is shown in many places—at conventions, at group meetings, in offices, in exchanging technical data, in working together on collaborative sample programs. It also has been demonstrated in mutual efforts to avert the passage of ill-advised laws.

Definitions Developed

In the tangible category of advances, it is pertinent to consider the number of definitions developed to describe feed ingredients in whatever part of the nation they may be used. The Official Publication for 1930 listed a total of 134 definitions of all classes; in the 1955 edition the figure has doubled to 267. Here is evidence that the control official has worked to keep abreast of progress in the industry.

Possibly of somewhat lesser importance but certainly not to be overlooked in an evaluation of development is the Model Feed Bill. Although not adopted in complete form in any of the states because of varying local conditions, the value of this document developed jointly by industry and control officials cannot be questioned. A glance through the many state laws shows the influence of the model bill in the ever-present quest for standardized legislation.

Progress in the feed industry must necessarily be paralleled by corresponding advance in feed control. Undoubtedly some measure of feed control was necessary at the time the Association of American Feed Control Officials was first conceived in 1909; its present position is approaching that of the indispensable. The absence of feed control at state and national levels coupled with the complexity of modern feeding materials probably would engender a state of chaos. It is logical to assume, of course, that the industry would go all-out to police itself from within; but without official jurisdiction and the backing of the courts, fringe operators and promoters could flourish. Under these conditions such individuals would be subject only to the usual laws covering fraud. Because of the endless web of possible technicalities, this would be difficult or impossible to prove in many cases.

"Unknown" Identified

The scientific tools available to the industry and control official today would hopelessly confound the most brilliant laboratorian of a few years ago. Although some of the time-tested analytical procedures of the 1920's are still of cardinal importance, the old methods of assay are helpless when confronted with trace elements, antibiotics, and some of the newer vitamins. Perhaps the greatest tribute which can be paid to the research worker is that "unknown factors" are usually removed from that classification before too much time has elapsed after their recognition.

Truly, the laboratories of industry and control agencies with their batteries of instruments, have come of age.

In brief, these are some of the advances which have been proceeding behind the scenes during the past 25 years. They all add up to give the feeder better and more efficient feeds.

3 LB. OF MEAT ON 6 LB. OF FEED

Looking into the crystal ball and trying to predict the future is always a risky business at best. I feel, however, that there is a real possibility that we will be growing 3-lb. broilers in 8 weeks' time on 2 lb. of feed per pound of gain under commercial conditions by 1960.—Dr. E. P. Singsen, University of Connecticut.

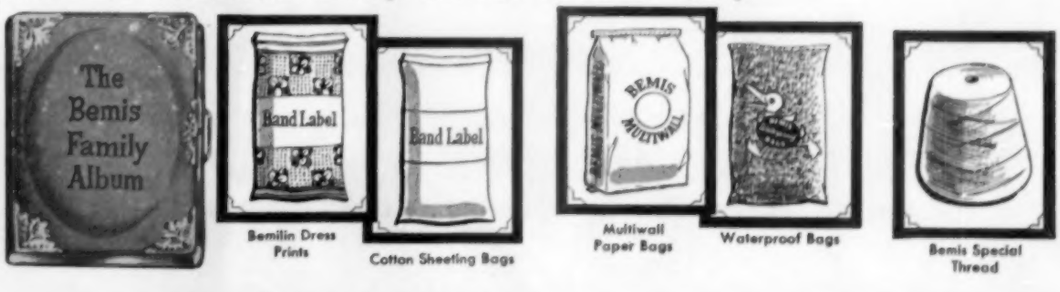
You get top mileage from

Bemis Burlap Bags

Bemis Burlap Bags are economical. And, since they are multi-trip bags, every re-use cuts the cost still more. Bemis quality burlap gives you maximum re-use . . . *lots of mileage.*

Bemis General Offices—St. Louis 2, Mo.
Sales Offices in Principal Cities

Also in the Bemis Family for the Feed Industry



Bemilin Dress Prints
Cotton Sheeting Bags
Multiwall Paper Bags
Waterproof Bags
Bemis Special Thread

COLUMBIA SOFT PHOSPHATE

U. S. Dept. of Agriculture tests* indicate this phosphate is 69% as available as bone meal . . . yet it costs (per percent of phosphorus) considerably less than one-half as much.
*Journ. of A.O.A.C., Feb., 1945.

Write for information and prices
COLUMBIA PHOSPHATE CO.
1007 Washington Ave. St. Louis 1, Mo.

• MANKATO, MINNESOTA
• MARION, INDIANA

There's no LUCK in Leadership

—IT'S EARNED!

HUBBARD'S SUNSHINE

FEEDS AND CONCENTRATES

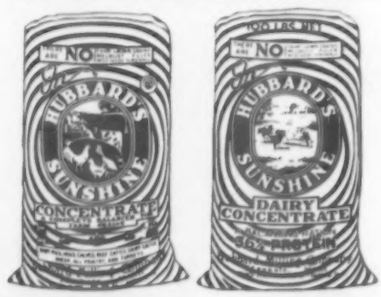
Leadership BUILT ON QUALITY

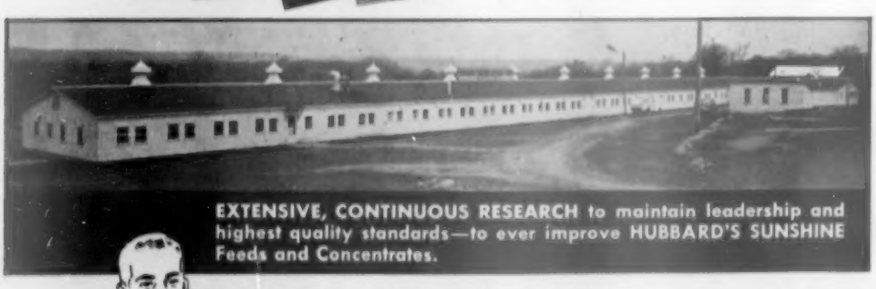
To *"Make a feed that makes a profit for the man who feeds it,"* has been HUBBARD's aim and objective ever since HUBBARD pioneered the first all-purpose concentrate in 1928. HUBBARD's leadership in the concentrate field has never been surpassed—their quality has always been tops. *And that reputation carries through Hubbard's Complete Feed Program.*

Leadership BUILT ON SERVICE

Countless "HOW-TO" BOOKLETS are available TO HELP YOUR CUSTOMERS MAKE BIGGER PROFITS THROUGH SOUND FEEDING PROGRAMS.

- Intensive Advertising Campaigns
- Colorful Counter Displays
- Special Premium Promotions
- Counselling Service by Experts
- Registration and Formula Service
- Bag and Tag Service





EXTENSIVE, CONTINUOUS RESEARCH to maintain leadership and highest quality standards—to ever improve HUBBARD'S SUNSHINE Feeds and Concentrates.

YOU should be a HUBBARD SUNSHINE DEALER...Just write

HUBBARD MILLING COMPANY

MANKATO, MINNESOTA *Established 1879* MARION, INDIANA

The Past and Future of Broiler Nutrition and Production

By Dr. Gerald F. Combs

University of Maryland

EDITOR'S NOTE: A look at the past and future of broiler nutrition and production is provided in these comments by Dr. Gerald F. Combs, professor of poultry nutrition at the University of Maryland. Dr. Combs lists some of the important developments of the past 25 years which have led to the remarkable advances in broiler feeding and growing, and he also lists likely future developments. The lists, not necessarily in order of importance, follow.

1. During the past 25 years or so, all of the vitamins of practical significance in poultry nutrition except vitamin A and vitamin D were discovered. If one lists these by the dates that each was isolated, the list is as follows: Thiamine, 1927; vitamin D, 1928; vitamin A, 1931; riboflavin, 1933; vitamin E, 1936; niacin, 1937; vitamin K, 1937; pantothenic acid, 1938; pyridoxine, 1938; choline, 1940; biotin, 1940; folacin, 1946; and vitamin B_{12}, 1948.

Although not all of these are of critical significance in practical feeds, all of these which are important as additives are available in concentrated form at relatively low cost. The discovery of these vitamins, together with their present availability to the feed manufacturer, has made it possible to make better feeds at appreciably lower costs and permits far greater freedom in selection of ingredients in ration formulation.

2. Important discoveries and establishment of requirements for various minerals must also not be ignored. The discovery of manganese in 1933 by the Cornell group was an extremely important contribution to our present day broiler feeds. Much work has been conducted on other trace minerals as well as on phosphorus nutrition. Today, we have available more satisfactory sources of phosphorus which supply it in a highly available form.

3. The improvements in the field of protein nutrition have been remarkable during this period. These include the establishing of the requirements for the essential amino acids, the improvement in processing of protein sources to render the protein digestible and available to the animal (soybean meal and cotton seed meal are excellent examples) and the availability of DL-methionine in quantities so that it is economically feasible to use it to advantage in broiler rations.

4. The renewed interest in energy content of the ration and demonstration of the importance of energy levels as a partial index of efficiency have also been a very important contribution in the formulation of more economical rations. Recent work reveals that the energy level of the ration may affect the required levels of other nutrients particularly protein in the feed.

5. Perhaps, the most dramatic achievement of all has been the discovery that the use of antibiotics and arsenicals and perhaps surface acting agents may be used to influence the microflora of the intestinal tract so that the health and well-being of the animal are improved. The increased growth and feed efficiency which has followed the use of antibiotics and arsenicals has been extremely important to the broiler industry.

6. The discovery that at least two unidentified growth factors are a practical concern in broiler nutrition, together with practical studies indicating levels of various sources of these unknown nutrients, has also been quite important.

7. The use of chemical antioxidants has made possible the addition of surplus animal fats and greases so that advantages as well as high energy levels can be achieved through the use of stabilized fats. Certain of these antioxidants have also shown renderable effects in their ability to reserve the vitamin A and vitamin E content of the ration as well as improve the pigmentation of the carcass of broilers.

Pellets and Crumbles

8. Recent increase of the use of pellets or crumbles in broiler feeding has resulted in less feed wastage and slightly better growing rates during periods of stress.

9. Valuable studies have been made in prevention and control of poultry diseases. An example of this is found in the several drugs available for the prevention and treatment of coccidiosis which is seldom a problem today

CORBEL S. C.

(Association of Ten Belgian Twine and Cordage Mills)

Specialists in Superior Quality

BALER and BINDER TWINE

Made from East African Sisal

USA—Sales Division

Emile Regniers Co. (USA) Inc.

415 Lexington Avenue New York 17, N. Y.

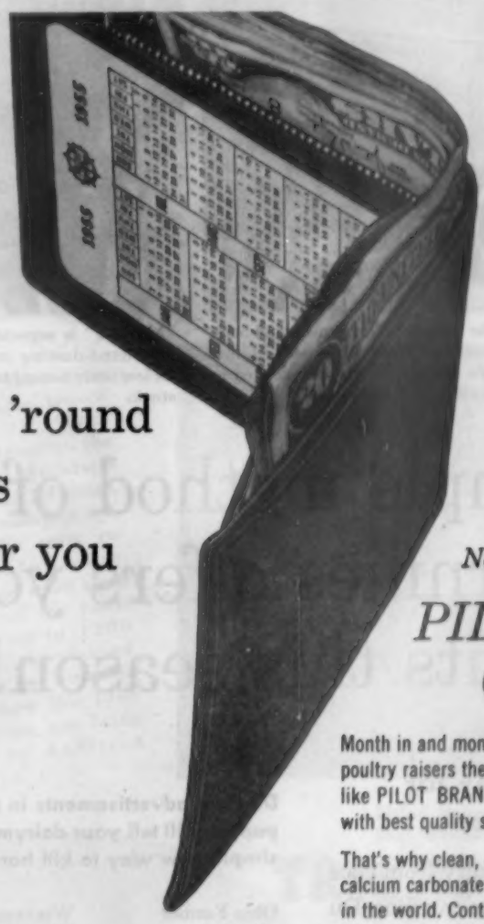
Distributors and Sales Agents Inquiries Invited

NORTH EAST

Feed Mill Company

MINNEAPOLIS 13, MINNESOTA

FEED INGREDIENTS OF ALL KINDS



Year 'round profits for you

No slack months with

PILOT BRAND OYSTER SHELL

Month in and month out, hundreds of thousands of poultry raisers the country over find that there's nothing like PILOT BRAND Oyster Shell to help them get the most eggs, with best quality shells.

That's why clean, dependable PILOT BRAND — pure calcium carbonate — is the largest selling eggshell material in the world. Continued demand from satisfied customers means fine, steady profits for you.

Featured on 70 Radio Stations and in leading Farm and Poultry Journals, PILOT BRAND Oyster Shell has been Nationally Advertised for over 30 years. Yes, it pays you to stock and push PILOT BRAND.

Order From Your Distributor . . . or Write to Us.

PILOT BRAND OYSTER SHELL

Oyster Shell Products Corp.

New Rochelle, N. Y. St. Louis 9, Mo.

FOR POULTRY

but represented a very serious hazzard to broiler growers only a few years ago. Perhaps one of the most critical problems in the broiler industry today is still the matter of disease prevention and control.

10. Improved broiler breeds and strains have contributed greatly to the development of the broiler industry. Without broiler chicks capable of growing rapidly to a marketable size in a short time, it would not have been possible to achieve the great strides in the field of nutrition. The fact that notable progress has been made in improving broiler strains and breeds has provided an opportunity for improved feeds to be effective. It is important that our broiler strains and breeds continue to be improved.

11. Last, but not least, is the matter of management which influences many of the factors mentioned above. Without question, the information gained through experiments and research has led to improved methods, improved equipment and elimination of certain chores once considered to be quite important, and the concentration of effort on things which appear to be critical. Increased intensification of the broiler industry has stimulated improvements in management procedures and development of improved equipment for mass scale efficient production of broilers. Without improved management and increased volume of production, the broiler industry would not be possible.

12. The recent use of high level of antibiotics in feeding to prevent or treat certain diseases for which no suitable treatment has been developed, is also considered worthwhile.

Future Developments

Concerning the future improvements and future feeds of broilers, it is obviously not possible to be certain that any single thing will occur, but it is equally obvious that we can be sure progress will continue. Several things are receiving attention that may appear in practice in the future. Some of these being considered at the present time are:

1. It seems likely that within a relatively short time, the formulation of all poultry rations will receive increased emphasis on the importance of balance of nutrients. This will undoubtedly start with an effort to provide the most efficient level of protein for the energy level of the ration. Considerable progress has been made already in broiler rations along these lines.

2. Many of our presently accepted nutritive requirements need to be studied in sufficient detail so that we can evaluate the influence of those major factors which affect the levels required by broilers. This will require considerable time but will surely be done.

3. We should expect to learn considerably more about how to put together protein sources in order to improve the effectiveness of protein. This will undoubtedly require the increased use of amino acid supplements including lysine as well as methionine in certain formulas.

4. We can expect improvement in the processing and quality of various ingredients with emphasis in stabilizing of the nutrients which are labile. Emphasis is being placed on several important ingredients by various manufacturing groups to obtain such information.

5. The increased use of hormones in fattening of poultry should be expected where this is desirable.

6. Undoubtedly, it is only a matter of time until we have at least two additional water soluble vitamins and perhaps one or more trace minerals of importance in practical rations. It would be quite pessimistic to expect that no additional nutrients would later be discovered. Since the progress in nutrition has been increasing rather than decreasing, it is only likely that we shall have several additional important nutrients come to light in the future. However, it is unlikely that they will have great practical importance in the formulation of feeds unless our methods of processing ingredients is greatly changed.

7. We should expect to use more industry wastes and fermentation products in animal feeds as our population increases in size with respect to our agriculture. It is not completely out of the question that we may be growing algae as a cheap source of certain nutrients as time goes on.

8. It is indeed equally likely that progress which has been made in the fields of breeding, disease control, and management will improve at least at the same rate of progress as has occurred during the past 25 years. This progress is indeed vital to continued improvement in nutrition.

THEY'RE ALL IMPORTANT

Nutritional discoveries during recent years have been somewhat dramatic, and widespread publicity given to some of these findings has caused many persons to feel that the new discoveries are much more important than many of the older discoveries that have been so widely used that they are taken for granted. Nutritional scientists must not depreciate the importance of some of the older findings, which are as important today as ever before. The new discoveries would be valueless without the background of less publicized and less dramatic discoveries of the past. It would be impossible to rate nutritional essentials as to their importance. They are all important—and the most important one of all is the one that is lacking.—Dr. J. E. Hunter, Allied Mills, Inc.

NEW FROM DU PONT...

Now, hornfly control on cattle can be fast, simple, and cheap! Heaping tablespoonful of "Marlate" does the job for two to three weeks.

Sprinkle "Marlate" over neck and back of animal and rub it in gently against hair. No mixing, no sprayer needed to kill hornflies this way!

"Marlate" is especially suited for the new hand-dusting method because of its low toxic hazard to humans and livestock.

This simple method of killing hornflies offers you new profits this season!

Cash in on this new way for dairymen to kill hornflies . . .

Get the facts on this big profit opportunity from your Du Pont distributor. If you are not now carrying Du Pont products, use the coupon below. "Marlate" 50 comes in convenient 4-lb. bags, 12 to a case. Also, sell "Marlate" 50 for spraying barns and premises. Be sure to stock a good supply before the fly season starts.

Du Pont advertisements in these farm papers will tell your dairymen about this simple new way to kill hornflies . . .

Ohio Farmer
The Farmer
Prairie Farmer
Michigan Farmer
Penna. Farmer
Hoard's Dairyman
Wisconsin Agriculturist
Western Dairy Journal
American Agriculturist
Dairy Breed Publications
New England Homestead
Kansas City Star Farmer
Progressive Farmer

MARLATE® 50
Methoxychlor Insecticide

DU PONT
REG. U.S. PAT. OFF.

BETTER THINGS FOR BETTER LIVING . . . THROUGH CHEMISTRY

E. I. du Pont de Nemours & Co. (Inc.)
Grasselli Chemicals Department
Room 4032—Du Pont, Wilmington, Del.

Please advise me of the nearest source of supply for "Marlate" 50.

Name_____

Firm_____

Address_____

Two Men Form St. Louis Grain and Feed Company

ST. LOUIS—Joseph C. Wise, formerly a partner with Central Grain Co., and Shirl J. Schuster, former owner of the Schuster Feed Co., have formed the Schuster-Wise Grain & Feed Co., which will be located at 310 Merchants Exchange Bldg., St. Louis.

Mr. Wise has been in the grain business in St. Louis for eight years, having worked for National Oats Co. and B. C. Christopher Co., as well as having been a partner for the last three years in Central Grain Co.

Mr. Schuster has been in the St. Louis market as a feed dealer for the last 15 years. He previously managed the St. Louis office for Cereal By-Products Co. and for the Nellis Feed Co. He established the Schuster Feed Co. two years ago.

Named Kerr Sales Manager

FRENCHTOWN, N.J.—Robert R. Wills has been named sales manager of Kerr Chickeries Co., it was announced here by S. L. Anderson, Jr., president of the firm. Mr. Willis will make his headquarters at the company's central office here.

Vitamins, Trace Minerals, Protein and Unidentified Factors

EDITOR'S NOTE: A brief review of why various vitamins and trace minerals are essential in poultry, swine and ruminant rations is presented in this article. Protein and amino acids and unidentified factors also are treated briefly. The article consists of excerpts from a talk by Dr. G. P. Whitlock, Merck & Co., Inc., on "Chemicals in the Feed Industry" at a meeting of the Commercial Chemical Development Assn. and Chemical Market Research Assn. Various chemical substances—including commercially produced vitamins, minerals, synthetic amino acids, growth promotants like antibiotics and arsenicals, hormones, and drugs—find wide use in making today's economical, precision feeds. In connection with this subject, Dr. Whitlock presented fundamental information on the necessity of various nutrients in animal and poultry nutrition. Feed men will find the accompanying summary of some of this modern knowledge of value in considering the "whys" of the various nutrients.

How many years animals have been fed by man to increase his food and clothing supplies is problematical. But it is interesting to note that less than 43 years ago the term "vitamine" was created and only 32 years ago the first vitamin fortification of commercial feed was made. Despite this short period of years, volumes and volumes of research have been reported concerning at least 16 different isolated and identified vitamins, and a number of unidentified growth factors.

Vitamins entered the feeding picture soon after the Polish chemist, Casimir Funk, coined the term "vitamine." He thought these accessory food factors contained nitrogen in the amine form. Subsequently nutrition investigators changed the spelling to "vitamin."

Only 20 years ago the Association of American Feed Control Officials still did not recognize vitamin substances in its official definitions of feed ingredients, although at that time some fortification was being made with cod liver oil for its Vitamin A and Vitamin D content. In the most recent official publication of the association, almost 40 official definitions are presented under the general category of vitamins.

Presumably farm animals require all of the known recognized vitamins for the various functions they perform in metabolism and biochemical reactions. However, many of the animals are able to synthesize within their own intestinal tracts a portion of their requirements, and natural feedstuffs they consume will contain additional quantities of many of the required nutrients. The feed industry today recognizes generally the need for fortification of poultry and swine rations with riboflavin, calcium pantothenate for its pantothenic acid activity, niacin, choline, vitamin B_{12}, folic acid, vitamin A, vitamin D, and under certain circumstances vitamins E and K.

VITAMINS—That the vitamins are essential in the nutrition of domestic animals can best be illustrated by the clinical symptoms exhibited by the different species when their diets are deficient in one or more of the vitamins.

Briefly, the absence of adequate riboflavin is manifested by reduced growth and a specific type of paralysis in chicks, known as curly toe paralysis; and by poor reproduction and reduced growth in swine. Pantothenic acid deficiency likewise manifests itself in chicks by reduced growth, poor feathering and a specific dermatitis. In swine pantothenic acid deficiency shows up as reduced growth and specifically as "goose stepping" caused by nerve degeneration.

Niacin deficiency is exhibited as reduced growth and poor feed efficiency for both poultry and swine. Reduced growth and enlarged hock disease in chickens and turkeys are the deficiency symptoms of choline. Vitamin A deficiency is associated with retarded growth, reduced egg production, poor feathering in chickens and turkeys and poor growth, reduced appetite, lameness and stiffness, poor reproduction, poor bone structure, night blindness, impaired reproduction and hyperirritability in swine.

What the B-vitamin deficiency symptoms are is difficult to demonstrate with ruminant animals such as cattle and sheep. Vitamin A fortification is frequently necessary to prevent night blindness, staggering gait, changes in the mucosa, increased susceptibility to infection, loss of appetite, and emaciation. In the ruminant animal, the intestinal tract is a site of synthesis of B-complex vitamins.

Vitamin D

Vitamin D deficiency is conspicuously a nutritional disease of calcium-phosphorus metabolism and bone formation. Practical demonstrations of a vitamin D deficiency are seen in poultry in thin shelled eggs, stiffness of gait; in swine as rickets, large joints, weak bones; in cattle and sheep as rickets characterized by stiffness of gait, irritability, tetany, lack of appetite, retardation of growth, etc. Prior to discovery of vitamin D it was not possible to raise chicks indoors during fall and winter months. Only when chickens were exposed to ultraviolet rays of the sun would they

NO MILK FOR THE BABIES

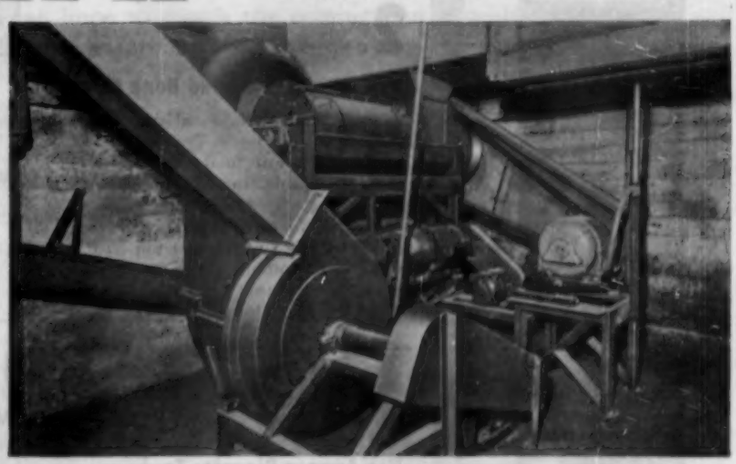
At one time riboflavin, which was first observed in milk by-products, bid fair to become the bottleneck in the way of expansion of the poultry and swine industries. Today if all the feeds for poultry and swine which are fortified with riboflavin had to use milk as the only vitamin source, there would be no milk for the babies of America. But the chemical industry has supplied abundant riboflavin by fermentation, and in so doing reduced the price from $1 a gram in 1934 to 6¢ a gram now.—Dr. Robert White-Stevens, American Cyanamid Co., Pearl River, N.Y.

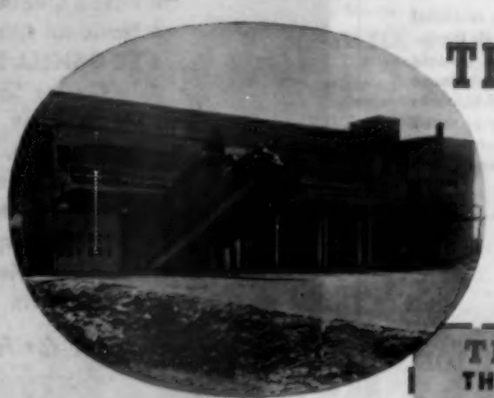
with

TRIUMPH No. 1200* CORN SHELLER CLEANING ATTACHMENT AND COB BLOWER

*Patent Applied For

View at right shows one of the two simple, proven Triumph No. 1200 Corn Shelling systems at the world famous Anderson Truck Terminal, Maumee, Ohio. These compact systems shell the corn; remove and blow away husks, silk and small trash particles with the cobs; discharge up to 1200 bushels of air cleaned shelled corn per hour. Six more Triumph No. 1200 Corn Shellers are being installed by Anderson during 1955.





Semi-trailer Loaded with 22 Tons of Ear Corn is Dumped and the Corn Shelled and Air Cleaned in 30 Minutes with a

TRIUMPH No. 1200 CORN SHELLING SYSTEM

Listed below are just a few of the plants that already have installed two or more

TRIUMPH No. 1200 CORN SHELLING Systems

Saginaw Grain Co.....Saginaw, Mich.
Anderson Truck Terminal.....Maumee, Ohio
Wolfe Grain Co.....Shipshewana, Ind.
Cooperative Mills, Inc.....Seaford, Del.
Farmers Grain & Coal Co.....Mason City, Ill.
Clinton County Farm Bureau..Wilmington, Ohio

Southern Plants! Ask us about the Triumph No. 1200 Shuck Sheller

TRIUMPH Division
THE C. O. BARTLETT & SNOW CO.
6240 HARVARD AVENUE, CLEVELAND 5, OHIO

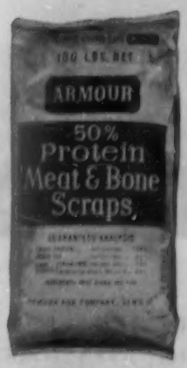
☐ Send me fully descriptive literature about your No. 1200 Shellers.
☐ Send a Sales Engineer.

Name _____ Title _____
Company _____
Address _____

"SNOW-FLAKE" OYSTER SHELL

3 sure ways

to boost the demand for your feeds



1.

Use Armour Meat and Bone Scraps

for building up the nutritional value of your poultry, cattle and sheep feeds. Armour Meat and Bone Scraps provide high quality natural proteins, with a good balance of essential amino acids, vitamins plus calcium and phosphorus in natural form.

2.

Use Armour Steamed Bone Meal

to assure high calcium and phosphorus content in your feeds. This tested and proved Armour feed ingredient is highly palatable, readily available, nontoxic and sterlized. Carefully balanced proportions of calcium and phosphorus guard against putting a strain on the vitamin D content—since the utilization of calcium, phosphorus and vitamin D are closely related.

3.

Use Armour Digester Tankage

in all your hog feeds for the essential proteins, vitamins and minerals it contains. A high-quality natural protein ingredient that provides a fine balance of the vital amino acids in addition to vitamin B_{12} and other important vitamins and minerals in natural form. Highly palatable, easy to handle and store.

They all add up to more meat for feeders...More repeat business for you!

ARMOUR AND COMPANY

TALLOW AND FEED DEPARTMENT • GENERAL OFFICES • CHICAGO 9, ILLINOIS

grow and develop at a normal rate. Similarly, laying hens needed sunlight to lay eggs with normal shells.

Vitamin E has had practically no role in the manufacture of formula feeds until the last year or two. It has been used, though, to treat muscular dystrophy manifested as "stiff lamb disease," white muscle disease in calves, and nutritional myopathy in turkeys. However, work at the University of Connecticut inquiring into the cause and prevention of field cases of encephalomalacia "crazy chick disease," has not only shown that vitamin E plays an antioxidant role in the gut of the chicken, but also that the antioxidant DPPD (diphenyl - para - phenylenediamine) will serve the same function in preventing this condition experimentally and under commercial conditions too.

A tentative requirement for vitamin K in chickens has been recommended by the National Research Council, but it has been felt that natural ingredients will furnish more than this requirement. However, the occurrence of conditions known as "hemorrhagic syndrome" has led to the fortification of broiler feeds with menadione (vitamin K active material) in recent months. The occurrence and character of hemorrhagic syndrome vary so widely that it would appear at this time that a simple vitamin K deficiency cannot explain all of these observations.

Vitamin B_{12} has been shown to be an extremely potent material, for as little as 3-10 milligrams per ton of feed will provide the level needed for good reproduction, viability and early growth in poultry and swine. A B_{12} deficiency can be observed in the calf, but, provided cobalt is present in the ration of the ruminant animal, sufficient quantities of Vitamin B_{12} are manufactured by the microorganisms in the rumen.

TRACE MINERALS—The role of cobalt in the ruminant animal mentioned here brings to attention the importance of other trace minerals in the diet of domestic animals. The roles of iron, copper, manganese, and iodine are of particular importance in the rations of all classes of poultry and livestock. Iron and copper are essential as blood building constituents and deficiency results in particular types of anemia. Deficiency of iodine invariably leads to goiter.

A deficiency of manganese in the diet of chicks and poults results in perosis, or slipped tendon (a malformation of the bones of the hock joint). Also in laying and breeding birds a manganese deficiency results in lowered egg production, decreased egg shell strength, and poor hatchability. In addition to goitre in pigs, an iodine deficiency can result in the birth of hairless pigs. This emphasizes the increased need of iodine in the ration of the pregnant and lactating sow over that for growing swine. Growth and feed efficiency in swine have been improved by fortification of rations with manganese. The essential nature and function of cobalt in swine have not been as clearly established as with the ruminant animal and it is doubtful whether cobalt fortification will benefit growth if the rations contain adequate amounts of Vitamin B_{12}.

PROTEINS AND AMINO ACIDS—Although proteins can also serve

IT HAD TO BE PURE

Back in the early 1920's, chick starters were very new, and the popular concept of a starter was a white, or nearly white, finely ground feed. The white color signified purity—for feed for so small an animal as a baby chick had to be "pure." Needless to say, the popularity of the white color soon wore off, simply because it didn't work. It didn't take long to get rid of the fine grinding either, because that pasted up the beaks of the birds and they couldn't eat very well.—C. W. Sievert, feed consultant, Chicago.

for maximum profits

DEPEND ON FOXCO PRODUCTS OF PROGRESS

Complete line of specialized products for greater profits in the poultry industry backed by a name known and respected for 80 years.

- Foxco Flavitein
- Servall-Standry
- Foxco QualADee Vitamin Oils
- National Alfalfa Meal
- EGGSHELL BRAND Pure Reef Oyster Shells
- Gran-I-Grit
- Smith's No. 1 Steam Dried Menhaden Fish Meal
- Dicalcium Phosphate
- Foxquin (Liquid)
- Asrofac Megamel Fortafeed Products

Write for Foxco Flavitein formulas

The FOX Company

NEWFIELD, N. J., *Phones: Vineland 9-4400, 9-4401, 9-4402*

THE "ALL-GRAIN" RATION IS OLD FASHIONED TOO!

The old woodburners that chugged past our elevators in 1887 are as outclassed by today's powerful diesels as the "catch-as-catch-can" feeding practices of those days are outclassed by modern stock and poultry formula feeds.

No farmer feeding the rations of even 10 years ago can hope to match the competition of today's formula feeds in producing meat, milk and eggs . . . and new discoveries are constantly improving the ability of these feeds to effect even better results.

Osborne McMillan Elevator Company with four large terminal distribution points . . . with country elevators in the finest grain areas of the Northwest . . . with 68 years of grain and feed "knowhow" . . . offers a complete line of quality feeds under the Jim Farmwell label.

These feeds, developed and maintained up-to-the-minute by the finest laboratory and test farm facilities, have a distinct advantage over long-haul feeds in economy and freshness in each of the many areas in which they are sold. They are as good as money can buy . . . Anywhere!

FEED WELL WITH FARMWELL

JIM FARMWELL POULTRY FEEDS

20% Chick Starter
16% Chick Grower
20% Egg Mash
26% Egg Balancer
21% Broiler Mash
18% Broiler Mash
20% Poultry Breeder Mash
37% Poultry Concentrate
26% Turkey Starter
20% Turkey Grower
26% Turkey Range Balancer
36% Turkey Concentrate
22% Breeder Mash
H L A Feed
Station Fattener

JIM FARMWELL HOG FEEDS

40% Hog Concentrate
36% Sow Supplement
Pig Creep Feed
Pig Starter Pellets

JIM FARMWELL CATTLE FEEDS

41% Cattle Concentrate
32% Steer Concentrate
20% Range Cubes
U-S* Beef Fattener
*Urea-Stilbestrol

JIM FARMWELL DAIRY FEEDS

36% Dairy Supplement
36% Dairy Supplement w/urea
Calf Grower Pellets
16% Thrift-O-Less
Dry Cow Builder

MAGIC CIRCLE HORSE FEEDS

Hi-E Horse Pellets
Lo-E Horse Pellets
Colt Pellets

Jim Farmwell Feeds

Manufactured by **OSBORNE McMILLAN ELEVATOR COMPANY**

MINNEAPOLIS, MINNESOTA

Complete Cash and Futures Facilities for Serving the Feed Trade.

Members of All Leading Commodity Exchanges.

UHLMANN
GRAIN COMPANY

Wabash Elevator • Kansas City • 4,000,000 Bu.

1480 Board of Trade 1158 Board of Trade

CHICAGO • KANSAS CITY
NEW YORK • ENID
FORT WORTH • AMARILLO

FOR EFFICIENCY AND ECONOMY IN BROILER AND SWINE RATIONS...
Call for
LOW-FREE GOSSYPOL
COTTONSEED MEAL...WITH HIGH NITROGEN SOLUBILITY!

NOW AVAILABLE COMMERCIALLY

Educational Service
NATIONAL COTTONSEED PRODUCTS ASSOCIATION, INC.
618 Wilson Building • Dallas 1, Texas

Serving the Feed Trade for 27 years
INGMAN LABORATORIES
324 Fourth Ave. So. Minneapolis 15, Minn. ATlantic 7770
Commerce Station

as a source of energy, they are used primarily as a source of "building blocks" for animal tissue other than bone. Thus protein has always been a measure of quality of feed. However, the "quality" of the protein itself in feed is being reevaluated in terms of biological value for growth or feathering and new developments include fortification of feed with certain individual amino acids. Synthetic methionine has proved to be of value in supplementing the amino acids found in several types of broiler and turkey starter feeds.

We know that removal from human food of any one of the essential amino acids results in disturbance of protein balance, failure in appetite, sensation of extreme fatigue, and decrease in nervous stability. Similar conditions are bound to exist in animals with a loss of performance value. We must strive for better balance for better economy.

UNIDENTIFIED GROWTH FACTORS—There is increasing study of what are thought to be three separate water soluble factors.

The "whey factor" is thought to be present in dried distillers solubles, dried distillers molasses solubles, dried brewers yeast, butyl fermentation solubles, and, of course, in hydrolyzed, fermentation or dried whey products. It would appear that these factors contribute to increased rate of gain in poultry by 5-10% and also improve feathering.

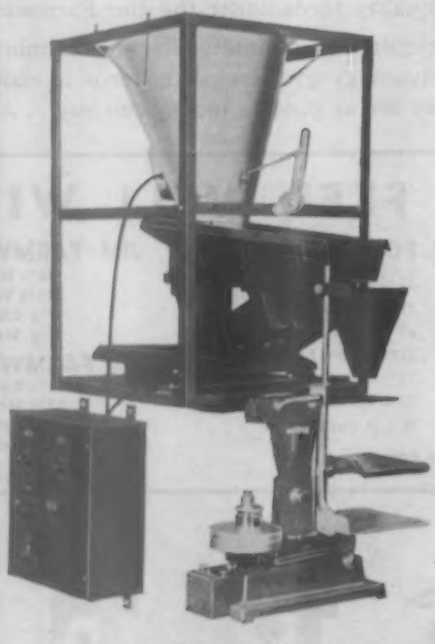
The "fish factor" is present in fish meal, fish solubles, crag meal, meat by-products, liver preparations, and probably in certain penicillium and streptomyces fermentation products. The fish factor is also responsible for increased rate of gain, feed efficiency, and perhaps also in improving hatchability. The third factor has been demonstrated in chicks on purified diets and is called the "alfalfa factor." or "grass factor." It is present in dehydrated alfalfa leaf meal, grass juice, and alfalfa juice.

PUTTING IT TO WORK FASTER

One of the feed industry's outstanding contributions to agriculture has been the increase in the speed with which state and federal research work is applied to farm practice. If our public experiment stations had to depend on extension services alone to put better feeding methods into effect, it would take many times longer than the short period that now elaspes between research and its application.—E. G. Cherbonnier, Grain & Feed Dealers National Assn.

POTOMAC Pure Crushed Oyster Shell For Poultry
IS BETTER THAN EVER
POTOMAC
TRUCK OR CAR LOADS
Let Us Serve Your Shell Needs
POTOMAC POULTRY FOOD
602 KEYSER BUILDING BALTIMORE 2, MD. LEXINGTON 9-0774

High-Speed, Semi-Automatic Weighing, Bagging Machine



These machines give you fast, accurate bagging or packing of feeds and other free-flowing materials. Extremely simple in operation, they assure exact weight—save time and prevent product waste from overweights.

"Vibra-Flow" feeder is actuated by Exact Weight Scale, electrically controlled from fast to slow speed to cut-off for accurate fill.

MODEL 1001-FM-2-30 Weighing Machine comes complete as shown with Exact Weight precision scale, photo electric cell controls. Hopper capacities up to 18 cu. ft.

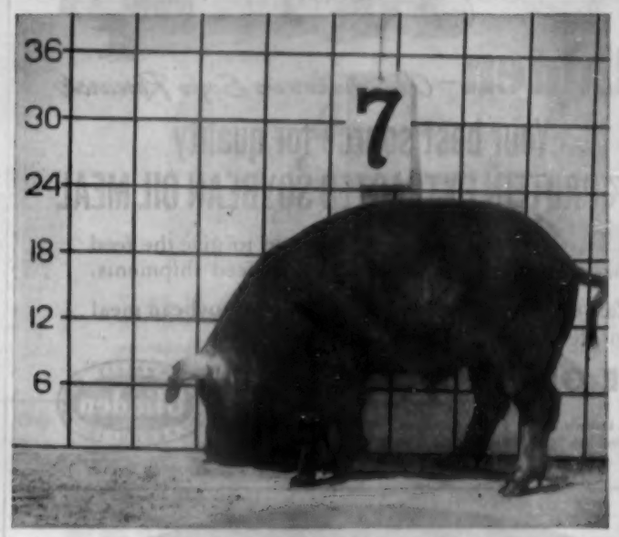
Other weighing machines and baggers available. Write for complete information.

Sales and Service Coast to Coast

Exact Weight Scales
Better quality control
Better cost control
THE EXACT WEIGHT SCALE COMPANY
908 West Fifth Avenue, Columbus 8, Ohio
In Canada: P.O. Box 179, Station S, Toronto 18, Ont.

MERCK VITAMIN B_{12} Is 100% Biologically Active

Pig on corn-soybean basal ration showing signs of vitamin B_{12} deficiency.



Pig on same basal ration to which vitamin B_{12} was added at the rate of 10 milligrams per ton.

When your starter, grower, and breeder rations for swine and poultry contain Merck Vitamin B_{12} Supplements, you get *sure B_{12} levels* to stimulate growth, enhance livability, and promote reproduction.

The vitamin B_{12} in Merck Supplements is 100% biologically active. Vitamin content is checked by a radioactive tracer technic that gives results parallel to those obtained in chick growth assays. An extensive testing program has confirmed the compatibility of Merck Vitamin B_{12} with other ingredients normally used in feed formulations.

Three different Merck Vitamin B_{12} Mixtures are available to meet your special needs. All three are specially formulated to facilitate accurate mixing and uniform distribution in your feeds.

MERCK VITAMIN B_{12} SUPPLEMENTS

Vitamin B_{12} Supplement "6"

Each pound equivalent to the activity of 6 milligrams of vitamin B_{12}. Oyster-shell meal carrier.

Vitamin B_{12} Supplement "20"

Each pound equivalent to the activity of 20 milligrams of vitamin B_{12}. Carrier is corn distillers dried grains.

PRO-PEN® with B_{12} "2:3"

Each pound equivalent to the activity of 3 milligrams of vitamin B_{12}. Each pound contains 2 grams of procaine penicillin. Oyster-shell meal carrier.

Research and Production for Better Poultry and Animal Nutrition

MERCK & CO., INC.
Manufacturing Chemists
RAHWAY, NEW JERSEY

© Merck & Co., Inc.

Glidden—*Pacemaker in Soya Research*

Your best source for quality
44% PROTEIN EXTRACTED SOYBEAN OIL MEAL

A toasted meal specially formulated to give the feed manufacturer uniform quality in all feed shipments.

Call us for competitive quotations on soybean meal and feed grains.

THE GLIDDEN COMPANY
Chemurgy Division
1825 N. Laramie Ave. • Phone: Berkshire 7-8600 • Chicago 39, Ill.
1160 West 18th St. • Phone Melrose 2-8441 • Indianapolis 9, Ind.

QUALITY Glidden PRODUCTS

SHELLEY WALSH MATT WALSH

LINCOLN 0678

We think you will like the prompt and careful attention we give to your feed grain requirements. Give us a call. We will take care of your needs personally.

WALSH GRAIN COMPANY
1002 FLOUR EXCHANGE • MINNEAPOLIS 15

UNCLE TOM'S FEED FABLES

Until last week, I hadn't seen Francis for at least 25 years. When I drove through his town on my way to Chicago, nothing would do but that I'd stay over that night so we could kinda catch up on each other and talk about old times.

Back in those old days, Francis and his dad ran the store together, and about once a month I'd come around and Francis and I would hit for the country on resale work. The old man was always waitin' for us when we'd come in at night, and he'd keep a record of what we'd done in a little book.

Well, as I said, I hadn't seen Francis for a long time, but I could sure tell he was doin' a good business.

"Francis," I said, "I wonder how we sold so much feed back in those old days? When you think about all the things we know today and how little we knew then, just how did we get the job done?"

"You know, Tom," he said, "when Dad died back in 1935, I took over on my own and I was just too blamed busy to do any work away from the office. Then the war came along—and, gosh, selling wasn't any trouble in the feed business. I didn't ever go out in the country any more. But business started to fall off here a few years back, and it finally got so bad I was about ready to toss in the chips. I expect I would have, too—except one day a young fella with a new line came in, and he sorta reminded me of you. He said he knew all about the feed—vitamins, antibiotics and so forth—but he guessed he just didn't know how to sell. He wanted to go out and call on some farmers, but he was just plain scared to go alone."

"I got to thinkin' about how we used to go out, and finally I figured I'd give the kid a break and go along. I didn't tell him, but I was just as scared as he was because I hadn't kept up on all the new things. I figured I'd just toss any technical question to him, though. It turned out that we had a darn good day, and when we came in that night, I got a little black book of my own, and I've been keepin' it ever since."

"That's fine," I said, "but I bet you had to do a lot of brushing up to get out there and talk feeds the way they sell 'em today, didn't you?"

"No, sir, Tom, that's the funny thing about it. Selling hasn't changed. Farmers aren't any different than they were 25 years ago. They don't buy the words on the tag—they buy the results in the bag. Those three rules of conduct that Dad pounded home to us—remember them? They were typed out and pasted on the inside cover of our orderbooks. I still have that first book."

Francis opened the drawer of his desk and handed the book to me. I leafed through the worn and faded tissues—the orders of April and May of 1930—and again I read his three rules of conduct:

1. The Farmer Feeds for Profit!
   Talk cost of gains—not cost of feed.
2. Honesty Is the Best Policy!
   Tell your customer only what you know—and if you don't know, say so. But, never find it necessary to say "I don't know" more than once to the same question.
3. Make Each Sale a Good Sale!
   Protect me by selling only those you are reasonably sure will pay—and protect your customer by selling him only what he needs and by being certain that he knows how to feed that which he buys.

PHOS-FEED* BRAND
DICALCIUM PHOSPHATE
MINERAL SUPPLEMENT FOR FEED MIXTURES

Makes good feeds even better!

- The feed ingredient with phosphorus (18¼% and 21%) and calcium in most available form
- *Lowest* in fluorine, containing less than .004% (that's less than 40 parts per million!)
- A dependable source of supply, assured by quality-control from mine to user
- Blends well . . . stable in storage . . . dry and free-flowing . . . won't cake or clog
- Derived from 99.9% pure Elemental Phosphorus

Available in 100-lb. bags or bulk (name your quantity). Descriptive folder, prices, samples on request. Write or call us today.

WRITE OR CALL CHEMICAL SALES DIVISION
The AMERICAN AGRICULTURAL CHEMICAL Co.
50 Church Street, New York 7, N.Y., Telephone BArclay 7-1400

*Reg. U. S. Pat. Off.

As a feed dealer you owe it to yourself and your customers to know...

What the Feed Tag Never Tells!

Side by side, tags from two different brands of feed may look similar, yet the gain producing value may differ 10 to 30%. Read what this extra value means to you.

NOT ON THE TAG—every bag of Archer Booster Feeds has the extra nutritional "kick" made possible by rigid quality control. You won't find it on the feed tag — but this extra value may actually be more important to gain than highly publicized, expensive antibiotics and other "miracle" ingredients.

JUST AS you keep your feed customers abreast of developments in antibiotics, and other nutritional developments, you owe it to farmers in your area to advise them about the difference ingredient quality can make in a feed . . . a difference they can't read on the feed tag. Very often, this quality difference can actually amount to a bigger nutritional "boost" than is provided by antibiotics.

The feed dealer who sells Archer Booster Feed can actually show his customers how Archer quality helps produce better gains on less feed for farm animals.

Here's proof. In a feed test on broilers, 10 different control flocks received identical rations except for the soybean oil meal. A different brand of meal was used in each ration.

The feed containing Archer Soybean Oil Meal produced a feed conversion of 2.62. This means, simply, that it took only 2.62 lbs. of the ration with Archer Soybean Oil Meal to produce a pound of gain. A greater nutritional "boost" than antibiotics. Archer topped them all . . . leading all ten rations in meat producing power. Yet, the feed tags of all 10 of these rations were identical.

Soybean oil meal isn't the only ingredient that can vary in the feeds you sell. Even low-level ingredients like dehydrated alfalfa meal can improve gains when quality is high. In tests, dehydrated alfalfa meal produced by the W. J. Small Co., a division of Archer-Daniels-Midland, improved broiler weights .12 lb. by the 10th week over rations containing other brands of meal. And remember, dehydrated alfalfa meal may represent only 5% or less of a typical complete ration. Again, each of these rations would have carried the same feed tag.

You see, feed tags may be pretty much alike . . . but the meat, milk and egg producing qualities of the feed may vary widely.

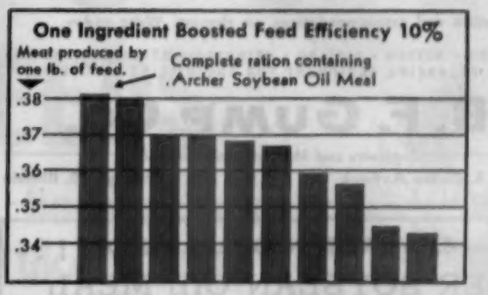
The higher gains in these tests came from superior quality ingredients. And the same high standards of quality that helped Archer produce better Soybean Oil Meal and Dehydrated Alfalfa Meal are observed in producing nearly all of the ingredients in a bag of Archer Booster Feed.

By weight, up to 47 pounds of a typical 50-pound bag of some feeds are produced or manufactured directly by Archer.

To the best of our knowledge, no other feed manufacturer anywhere can keep such a close check on quality because so many ingredients are produced in its own plants; and offer this added advantage that pays off in higher gain, on less feed. It's important to Archer to maintain this high quality—it's important to the farmer whose profit might depend on this quality—and it's important to you, as a feed dealer to be able to offer the superior Archer quality in all feeds.

Remember, there's an important gain-producing factor in Archer feed **that the feed tag never tells.** Let it help boost your sales. Write today for full details.

PORK IN A FEED BAG—you bet, that's what farmers buy. But does your present line of feeds offer the extra "kick" that produces more meat with less feed? Read how modern quality control builds this nutritional power into feed.



THE ONLY DIFFERENCE in these 10 broiler rations was the brand of soybean oil meal—yet the ration with Archer Soybean oil meal produced 10% more gain per pound. That's how Archer quality improves the efficiency of all Archer Booster feeds. Read what this means to you as a feed dealer.

ARCHER-DANIELS-MIDLAND CO.
Feed Division Sales Offices
MINNEAPOLIS, MINN. KANSAS CITY, MO.

***FIND OUT HOW** you can be an Archer Booster Dealer. Write today for full details on dealerships open in your area. You'll do better with Archer.*

EFFICIENT SCALPING..GRADING..

of feeds
and
feed ingredients

The BAR-NUN Rotary Sifter

Clean, thorough separations; big capacity in minimum floor space and head room; and low operating and maintenance costs *mean more efficient scalping or grading of feed materials* with the new all-metal Series "M" Bar-Nun Rotary Sifter.

An original four-point mechanical drive moves the entire screen area of the Bar-Nun in a uniform rotary motion, assuring rapid, accurate separations. Choice of eccentric throw and speed provides the most efficient action for the specific job . . . scalping feeds . . . grading corn . . . or sizing pellets or crumbles. And, optional flows with level or inclined sieves, make the Bar-Nun Rotary Sifter easily adaptable to your present layout. Smooth, vibrationless operation requires less power and contributes to long life and low maintenance cost, even in continuous 24-hour service.

For modern operating advantages and production economies, choose the new Series "M" Bar-Nun Rotary Sifter for your next scalping or grading requirement. Details and recommendations furnished without obligation.

Complete information and recommendations on request. Write today.

FEEDING • MIXING • SIFTING • GRINDING • WEIGHING • PACKING and PACKAGING EQUIPMENT FOR THE MILLING INDUSTRIES

B. F. GUMP CO.

Engineers and Manufacturers since 1872

1310 S. Cicero Avenue . . . . . Chicago 50, Illinois

!!! NOW — 43% PROTEIN GUARANTEED !!!

EXPELLER SOYBEAN OIL MEAL
and PEASIZE CAKE

As Basic High-Protein Ingredient for

DOG FOOD RATIONS

RECOGNIZED By Dog Food Manufacturers from Coast to Coast

Because It Is

PREFERRED for its high fat content and uniformity in size and texture.

VALUED for its golden-brown color, flavor and digestibility.

AVAILABLE throughout the entire year from our centrally located plant.

ILLINOIS SOY PRODUCTS CO.

SOYBEAN PROCESSORS

P.O. Box 55 SPRINGFIELD, ILLINOIS Phone 23391

C-O (CADMIUM OXIDE)

Pig Wormer PREMIX

AVAILABLE TO FEED MANUFACTURERS, LICENSED BY PEMCO PRODUCTS, INC., UNDER PATENT NO. 2,696,455

Farm Chemicals Co. BOX 108 MARION, IND.

FEED GRAINS for the FEED TRADE

MULLIN & DILLON COMPANY

Main Office

MINNEAPOLIS, MINNESOTA

A LOOK AROUND

(Continued from page 59)

pocket without noticing the difference.

♥ ♥

1940—FRENCH LICK

The ghost of the Saranac Inn stirred slightly when the early birds among the feed men arrived at French Lick and saw that a utilities convention was still in progress in the hotel. Mr. and Mrs. A. F. Seay, Purina Mills, St. Louis, were among the very early arrivals and threatened the hotel with their own personal blitzkrieg if last year's experience was repeated . . . Final registration at the convention was 420, by far the largest on record. There were 200 registered in the hotel 24 hours before the first session was scheduled to open. Association membership has tripled in the past few years, and there is a probability that next year's convention will be extended to three days instead of two in order that there will be more time both for convention work and for visiting.

Ken Walters, Atkins & Durbrow, New York, takes his work on the AFMA membership committee seriously, but he perfected a system to conserve his energy. He obtained a convention registration list and checked it against the list of association members. He then sat down in a comfortable corner of the lobby and had the nonmembers paged, one by one. When the page boy brought the prospects up to him, he opened his sales talk—and with success, too . . . The golf tournament drew 199 players and 63 prizes were awarded. The golf committee mixed things up by basing handicaps on the second day's play and considering the first day as the actual tournament round . . . More and more good golfers are feed men, or perhaps feed men are better and better golfers. Among the newcomers this year was Johnny Goodman, the former national open champion, who is representing United Mineral Products Co., Omaha. He shot 71-68 in the tournament, which is three under par for 36 holes. He didn't win a golf prize, but he hit a jackpot on a two-bit slot machine for $35 in cash, so woth'ell.

The first official gathering of the Screwball Clan lived up to the name, with initiation ceremonies taking up the evenings of Harry Cowan, Spencer Kellogg & Sons, Minneapolis; Jack Sams, Blatchford Calf Meal Co., Waukegan, Ill; and the vision in green, Bill Westerman, Oyster Shell Products Co., St. Louis. The initiation had something to do with a pig, and you could spot an initiate by the lingering aroma of roquefort cheese, providing you could identify that odor. Chief trouble was so many persons wanted to become members that activities were on a mass production basis and Jack Sams forgot to collect the dues and Bill Westerman neglected to take down the names. Aside from that nothing else was businesslike either.

♥ ♥

1941—HOT SPRINGS

Knockers will have no excuse for calling the feed manufacturers' convention nothing but a golf tournament any longer, if this year's meeting is any criterion. The part of the program sponsored by the Committee on Nutrition was worth all of the work put on it by Dr. J. E. Hunter and his group, and that it was appreciated was shown by the extra attendance it drew, not only to that session, but to the convention itself . . . The final registration was 383 men and 68 women, for a total of 451, and the efficient young ladies on the desk said that a considerable

FOR TOP QUALITY PRODUCTS
YOU MUST HAVE—

- *The RIGHT Plant*
- *The RIGHT Machinery*
- *The RIGHT Know-how*

Pulverized Oats
Pulverized Barley
Steam Crimped Oats

JAY MARTIN, General Manager
HERB KELM, Sales Manager

LA CROSSE MILLING CO.

Phone 88 COCHRANE, WIS. TWX Cochrane 8450

NEW **LIQUID** FAT

Marcol B-75

...the BEST WAY to

STOP DUST IN FEEDS

- Pours, handles and mixes like water!
- Super STABILITY!
- No Extra Labor Cost!
- Lowest Equipment Cost!

Marcol B-75

"The Fat That's Fashioned for Feed"

HALF AS MUCH DOES THE JOB

Write for Free Sample

Name _____

Address _____

City _____ State _____

Address to: MARCO CHEMICAL CO.
P. O. Box 8, Fort Worth, Texas

Marco Chemical Company

P. O. Box 8 Fort Worth, Texas

number of feed men present had not put their names on the book. They must have thought it cost something.

There may have been a larger total attendance at a few meetings in the past, but there never has been one so illustrative of the scientific basis on which the feed manufacturing industry is founded. Besides the usual representative group of merchandising and production executives, most of the companies sent their research men and nutritionists. The nutritional program on Saturday morning was the most crowded of any of the sessions . . . Those spots you saw before your eyes the morning after probably were vitamins shed by the men of science.

Dr. C. F. Huffman, of Michigan State College, kidded C. F. Monroe, of the Ohio State Agricultural Experiment Station, by telling him that all of the material presented by Monroe and Dr. Loosli of Cornell on fat requirements of the dairy cow could have been found in an article by Huffman published 8 or 10 years ago in FEEDSTUFFS.

Some jokester wanted to offer as first prize in the ladies' bridge tournament a two-hour buggy ride with Ralph Field, president of the association, but nothing came of it . . . H. L. McGeorge, Royal Stafolife Mills, Memphis, brought his son to Hot Springs for junior's first convention . . . Someone made the suggestion that it would be an excellent idea for all of the fathers who have sons learning the feed business to do the same thing in future years.

Walter Berger, Des Moines Oats Products Co.; Carl Orsinger, Waterloo (Iowa) Mills, and Bob Crawford, Oyster Shell Products Corp., St. Louis, drove from the Milwaukee convention to the Hot Springs meeting without stopping to sleep. They arrived early Wednesday morning looking like the rest of us looked after the convention was all over . . . Charles F. Kieser and Tom Wilkinson, who were hosts in the Borden rooms, pleased the ladies by presenting each one of them with a corsage. They bought something like 100 of them during the convention . . . What was a golf ball with the name of Ellis Early, Early & Daniel Co., Cincinnati, on it doing in a potato patch clear off the golf course? On shots like that, an unmarked ball should be used.

v v

1942 — FRENCH LICK

Everyone came to talk about the newfangled OPA, ODT, WPB, OADR, but the chief subject of conversation was the old-fashioned WB, or weather bureau . . . Three humid days with temperatures in the 90's, and no breeze, made even the most fastidious shed coats and neckties. The French Lick Springs Hotel for the first time waived its ruling about wearing coats in the dining room, in consequence of which it looked more like Joe's lunchroom than a country club on Sunday afternoon . . . The swimming pool was almost as popular as the golf course . . . Only reported casualty was J. H. Riley, Nutrena Mills, Inc., Kansas City, who suffered a slight heat stroke on the golf course Friday afternoon.

The eastern delegation, 150 strong, left Saturday afternoon on their special cars which had been sitting in the sun since their arrival three days before, and they could not get any air-conditioning until they reached Cincinnati, several hours away, by which time they were done on both sides. . . . Charles F. Kieser, Borden Co., New York, refused to get on the train because of the bake oven temperature, and hired a cab to Indianapolis, where he took an airliner home. . . . Speaking of birthdays, J. R. Wall, California Packing Corp., San Francisco, suddenly remembered about midnight on June 5, that his wife's birthday had been June 4, but he couldn't persuade the telegraph company to roll back the date on a message.

M. C. Schultz, Urbana (Ohio) Mills, thought he had seen about everything in golf until he was given an 85-year-old caddy to lug his golf sticks about in 100 degree temperature. The caddy, "Pop" Combs, claims to have nine children, 70 grandchildren and 66 great-grandchildren. Anyway, he ended the day with a lot more pep than some of the golfers. . . . Bruce Varney, Cerophyl Laboratories, tossed off the blistering weather with a shrug and played golf both afternoons . . . but he was a real note-taker at the morning sessions when professors were talking. . . . Tom Staley, Staley Milling Co., turned his back on the convention hilarity the second night long enough to send a long wire to his vacationing daughter, Nancy, telling her that all was well at French Lick.

One of the sons of Gene Morris, New England By-Products Corp. representative, will quit selling vitamin oils for the duration, as he expects to enter the army shortly after the convention. Many of the feed men have sons in active service, among them Jerry MacNicol, whose boy is piloting a bomber in the Pacific, and Robert C. Crawford, Oyster Shell Products Corp., St. Louis, who has two sons in the navy. The son of Mr. and Mrs. Max Nowak, who for many years were regular attendants at the feed manufacturers' convention, is flying a transport plane daily between India and Chungking.

v v

1943 — CHICAGO

By golly, we heard of a new use for FEEDSTUFFS at the convention. R. E. Barinowski, of the Feedright Milling Co., Augusta, Ga., says that down in his country feeds are so scarce they are mixing old copies of our favorite trade journal with molasses and feeding it to the chickens and cows. A bystander expressed amazement at this. "Where in the world do you get the molasses?" he said. . . . The convention had a near-tragic incident. Jack Hanley, in charge of millfeed sales for the International Milling Co., Minneapolis, developed a hemorrhage on the train en route to Chicago, and had lost so much blood by the time he could be taken to a hospital that it was necessary to administer five pints by transfusion. Wayne Fish, the Minneapolis feed expediter, John Griffith, Northern Oats Co., Minneapolis, and several other feed men probably saved the sick man's life by donating their own blood and rounding up other vol-

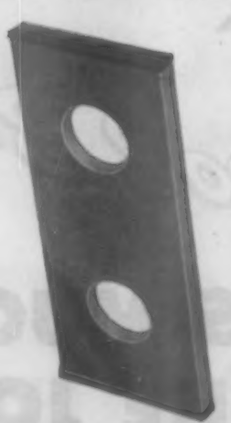
TON LITTERS

Remember when a ton litter of hogs was hard to attain in eight months? Later, it took six months, and now in 5½ months we can have ton litters (a litter of pigs that weighs a ton at market time). That's progress—in feed, in breeding and in management. But, without the feed, the breeding and management would be largely lost.—C. W. Sievert, feed consultant, Chicago.

for QUALITY GRANULATION...450 tons a day

Pillsbury uses PACAL Hard Faced HAMMERS

"Pacal Hard Faced Hammers give us the *quality granulation* our poultry and animal feed customers want", says Charles F. Wilson, superintendent of the East Los Angeles plant of Pillsbury Mills, Inc. "We use Pacal Hard Faced Hammers an average of four times as long as other hammers . . . some even longer. We consider the extra life as a bonus."

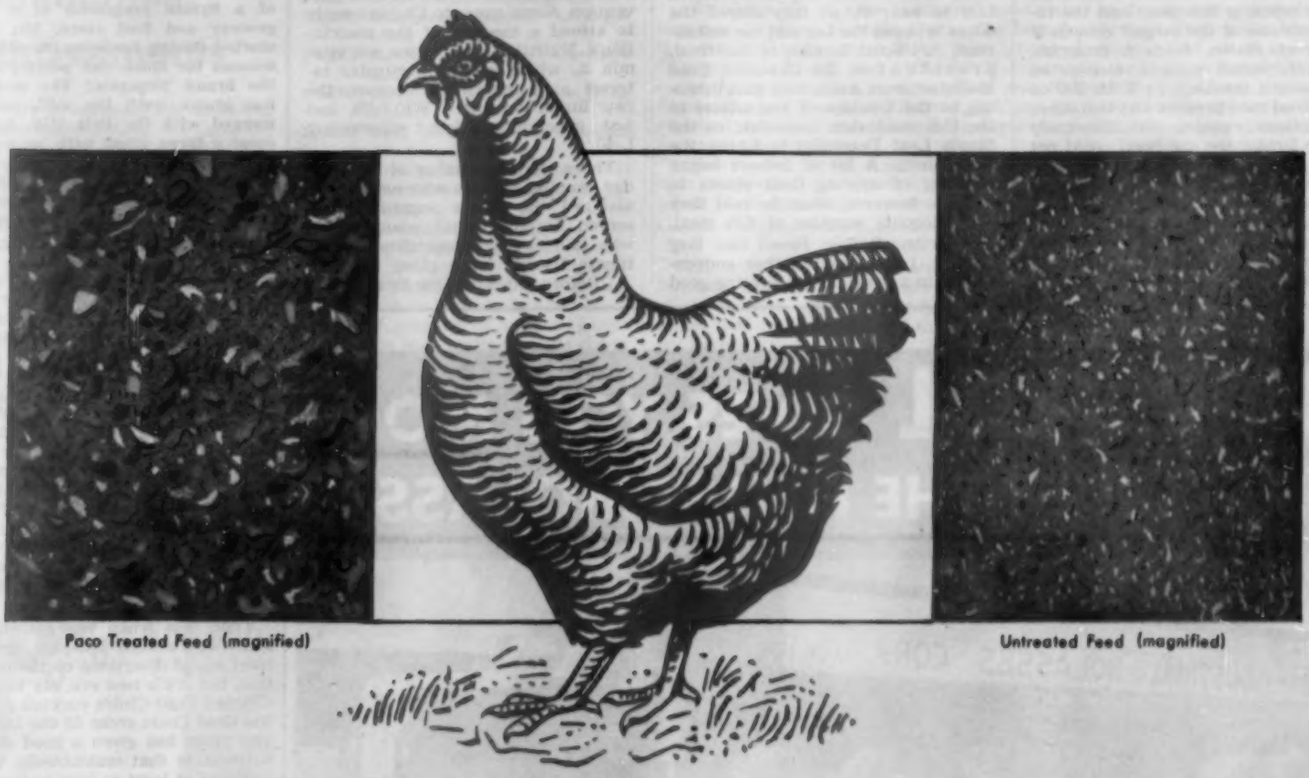


PACAL
hard faced hammers and hammer clusters will run 3 to 4 times longer in your hammermill!*
*U.S. PAT. NO. 2,697,550

write department HC-55
PAPER-CALMENSON & COMPANY
County Road B and Walnut St., Adjoining Highway 36, St. Paul 8, Minn.
Phone NEstor 9456

Give a chicken her choice

AND SHE'LL CHOOSE PACO CONDITIONED FEED



Paco Treated Feed (magnified)

Untreated Feed (magnified)

PACO makes the difference

- IMPROVES FEED TEXTURE
- HELPS ELIMINATE DUST
- IMPROVES PALATABILITY
- REDUCES FEEDING WASTE
- NO RANCIDITY PROBLEM

A highly nutritious feed ingredient in itself—Paco supplies vitamins, trace minerals and unidentified growth factors. Its cost is surprisingly low.

Available for immediate or deferred shipments.

WRITE FOR A FREE TESTING SAMPLE TODAY

PACO Molasses Distillers Dried Solubles provides a most economical and easy method of improving the physical properties of your feeds. As Paco comes to you in moisture-resistant paper bags, it is practically bone dry and consists of tiny thin flakes that mix readily with other feed ingredients. When mixed with feeds of normal moisture content, these Paco particles attract moisture, causing the dust and fines to adhere to them. This results in a finished feed of improved texture.

PACO MOLASSES DISTILLERS DRIED SOLUBLES

A PRODUCT OF
PUBLICKER INDUSTRIES INC.
ANIMAL FEED SALES DEPARTMENT
1429 WALNUT ST., PHILADELPHIA 2, PA.
PUBLICKER ALCOHOL & CHEMICAL SALES CORPORATION
101 ARSENAL ST. • ST. LOUIS, MISSOURI • PROSPECT 6-0858

unteers. They admitted, however, that Hanley would have to be watched carefully after he is released from the hospital, for there is no telling what strange urges he may develop with the blood of those boys in him.

They say that the popular girl is the one who is hard to get, and the same philosophy seems to apply to drumming up convention attendance. The association did everything short of making an actual secret of it in an effort to hold down the numbers at the meeting this year, and the result was one of the largest crowds it has ever drawn. Such a program, however, would pack a convention hall once a month. . . . With 700 or more feed men present and two other conventions running simultaneously at the Drake, the one hotel could not begin to take care of those who wanted rooms. Many stayed at nearby hostelries and a number patronized the loop hotels. . . . Although there were a number of wives at the 1943 convention, they were far fewer than in former years, Chicago apparently not having the appeal of Hot Springs, White Sulphur, French Lick—or, yes, even Saranac. . . . We saw Mrs. A. F. Seay, Mrs. Floyd Wilson, Mrs. R. V. Nye, Mrs. Albert Werthan, Mrs. Joe Manasse, Mrs. Wirt Walker, Mrs. C. J. Martenis, Mrs. Max Nowak. Maybe there were others, but, shucks, we don't get around much any more.

A bunch of the boys were whooping it up in the Camelia Room bar on Friday afternoon, and the management didn't want any lady named Lou to hear it, so they closed the doors between the bar and the restaurant. . . . Scott Brooks, of Montreal, president of the Canadian Feed Manufacturers Assn., said that listening to the troubles of the mixers in the U.S. made him homesick, as the Maple Leaf Dominion is facing the same thing. A lot of fellows began thinking of moving their plants to Canada, however, when he said they had adequate supplies of fish meal. . . . Arthur Raikes, Bemis Bro. Bag Co., St. Louis, was another conventionite in a mood for celebrating good tidings. He had just received a cable that his brother, John, who was in Singapore when it fell and had not been heard from since, was alive. He is being held as a prisoner by the Japs.

v v

1944 — CHICAGO

There were more feed men around the lobby of the Drake the day before the convention opened than used to be registered at an AFMA convention. Some came to Chicago early to attend a meeting of the association's Nutrition Committee on vitamin A, which was of particular interest and importance because the new limitation order, WFO 99, had just gone into effect, superseding L-40.

There were a number of Wednesday evening arrivals who never were assigned the rooms supposedly reserved for them that evening, and who had to beg hospitality of fortunate friends for a place to sleep. . . . Before criticizing the Drake management too much, however, it should be remembered that there are few hotels in Chicago, or the country, for that matter, that can take care of a convention of 1,000 people. The Drake at least has a number of good to fair hotels near by to take care of the overflow, and the loop hotels are only a short distance by taxi, providing you can find one when you are ready to go home. . . . A brief poll of convention old-timers showed sentiment to be strong for a return to French Lick or Virginia Hot Springs just as soon as transportation limitations are removed to allow special cars and trains to those rather out-of-the-way places.

Time was when the golf tournament and annual banquet were the chief social diversions of the convention, but it's a new era, my lads. The Chicago Feed Club's cocktail party in the Gold Coast room at the Drake in two years has given a good start to a tradition that undoubtedly will be followed at least as long as the meeting is held in Chicago. It is nicely handled and the Chicago Feed Club deserves much credit both for the idea and its execution.

Bill Westerman, Oyster Shell Products, and Howard Riley, Nutrena Mills, were the only golfers we heard about in Chicago, where it is more than a brassie shot to the nearest course—unlike the resorts. . . . Horse racing seemed to claim the most sporting interest with baseball next. . . . C. B. Fretwell, Spartan Grain & Mill Co., Spartanburg, S.C., carried a handful of corn in his pocket, just to show people "what we used to put into feeds." . . . Lewis E. and Eugene L. Selders, Spear Mills, Inc., Kansas City, were probably the youngest major feed mill operators at the convention.

v v

1945

No convention was held in this war year because of transportation and hotel difficulties. The board of governors of the AFMA and a few key committees conducted a skeleton meeting in Chicago.

v v

1946 — FRENCH LICK

Probably there never was a more confused, hectic or irritating convention, as far as the comparatively trivial details were concerned. . . . On the other hand, the feed industry seldom has staged a better one from the standpoint of program, attendance and accomplishment. . . . Around 1,200 reservations were received by the French Lick Springs Hotel, which has a capacity of less than 900. The hotel management, by reasoning that would be clear only to itself, actually confirmed about 1,100 reservations. It then had to ask Ralph Field's office to help it get straightened out. . . . The only thing that could be done was to ask companies with multiple reservations to cancel part of their rooms. . . . Added to this mixup was the cancellation of a special train out of Chicago on Monday night, because of the coal shortage. . . . Several hun-

FEED PLANT FROM SMALL STORE GROWS

From Feedstuffs of June 29, 1929: "A dozen years from the selling of newspapers on an Oklahoma City street corner to the position of vice president of one of the largest feed mills in the Southwest is the remarkable record of B. D. Eddie, Superior Feed Mills, Oklahoma City. The son of a Syrian proprietor of a small grocery and feed store, Mr. Eddie started mixing feeds for the different seasons for stock and poultry under the brand 'Superior.' The nest egg has grown until the mill, recently merged with the Belt Mill, has become a large plant with an unusual payroll of $54,000. An expansion program for 1929, which includes expenditure of $50,000 for various improvements, has been launched."

INDUSTRIAL GIVES YOU MORE THAN JUST THE FINEST MOLASSES

THESE 4 IMPORTANT SERVICES

- 24 HOUR DELIVERY to any users of molasses.
- A GUARANTEED year 'round supply of molasses. No seasonal delays.
- SPECIFIC ANSWERS to users' technical problems. Regular service and suggestion bulletins.
- AN EXCLUSIVE SOURCE of sugar beet pulp with service to meet customer's needs.

PLUS UP-TO-DATE HANDLING FACILITIES FOR
- BLACKSTRAP
- BEET MOLASSES
- B & B BLEND (Blackstrap and Beet)

Fast, dependable service is our specialty. Our fleets of tank-cars, tank-trucks and barge shipments assure prompt service at lower handling costs!

INDUSTRIAL MOLASSES CORP.

MIDWEST DIVISION

5009 EXCELSIOR BOULEVARD MINNEAPOLIS 16, MINNESOTA

20 DIVISION OFFICES AND TERMINALS ACROSS THE COUNTRY TO SERVE YOU

Advertisement

Advertisement

Jacobson Serves Industry Over 45 Years

"Firsts" Show Hammermill Improvements

In order to maintain its leadership in the manufacture of grinding equipment, Jacobson Machine Works has consistently emphasized product development. This is shown clearly in the number of "firsts" which Jacobson has brought to the field; features which have been adopted by other manufacturers as soon as the Jacobson patents have expired.

Among the features which Jacobson introduced to help make feed grinding a profitable business, are these:

FIRST Monocast Base
FIRST Three-Piece Bearing Housing
FIRST Shaft Reinforcement
FIRST Assembled Hammer Cluster
FIRST Crowned End on Hammer Blade
FIRST Self-Sharpening Cutting Plate
FIRST Screen Clamping Mechanism
FIRST Staggered Hammer Arrangement
FIRST Eccentric Screen Carriage Release
FIRST Inclined Variable Speed Drag Feeder
FIRST Full Circle Screen—Internal Air Circulation
FIRST Riveted Hammer Clusters
FIRST Master Automatic Screen Selector
FIRST Recirculating Collector

As each of these Jacobson "firsts" has been developed, it has been subjected to rigorous tests both in the factory and on the job. In addition, a consistent program of contacting customers has been maintained, to check on hammermill performance, and to learn of additional needs which can be met by further improvements.

Quality Grinding Equipment Receives Wide Acceptance

MINNEAPOLIS—No "Johnny-Come-Lately" to the grinding equipment business, Jacobson Machine Works has been in the field since 1910. Among the familiar units which have been produced during that time are the "Universal," "Ajacs" and "Master" Hammermills, as well as standard and recirculating collectors, reciprocating and inclined drag feeders, ear corn crusher feeders, Jacobson "Economy" Alnico permanent magnetic separators, standard and hard faced hammers, separate motor driven fans and mobile molasses blenders.

Jacobson not only supplies this equipment, but offers engineering help with equipment layout, which is almost indispensable to a mill operator who wants the best possible arrangement of his mill.

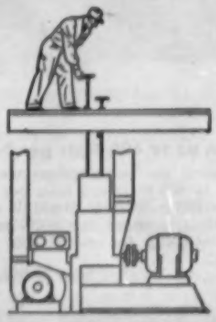
This consistent forward look at Jacobson Machine Works has resulted in quality grinding equipment which feed mill owners and managers have come to depend on. And it looks like this mutually profitable relationship will continue for years and years.

Perhaps this ability to offer specific help with local problems has been as important to the success of Jacobson Machine Works as dedication to the principle of manufacturing only quality machinery. Both facets of the Jacobson picture show an emphasis on doing what is best for the Jacobson Customer.

Jacobson "Master" Hammermill, featuring instant screen change from the service floor. From 55 to 140 H.P.

A fine example of the quality equipment manufactured by the concern is the "Master" Hammermill, designed to permit instant change of granulation from the service floor without stopping the hammermill. It is the finest grinder available to custom millers.

The "Master" Hammermill contains three screens at all times. A full half circle fine screen is locked in position in the lower part of the grinding chamber. Above are a medium screen and a coarse screen, each with a movable cover controlled from the service floor by a direct rod.



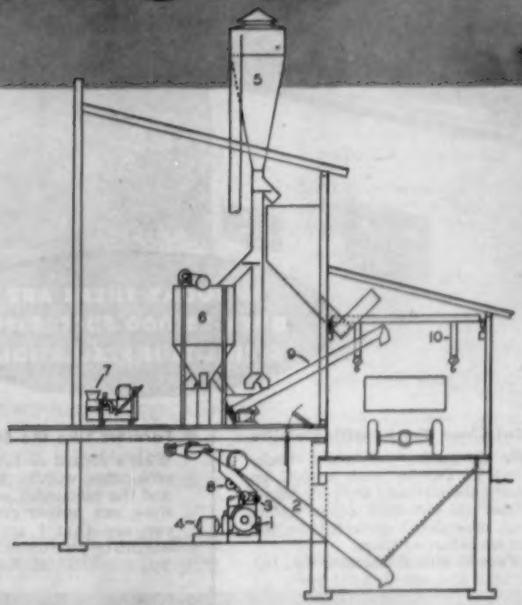
Sketch of Jacobson Remote Screen Change. Granulation is controlled by a simple push-pull operation of direct rods.

No complicated chain and sprocket mechanisms are involved, there are no moving screens to get wedged in their slots or wear against each other, and there is no need to leave the service floor or stop the mill. For fine grinding, the covers are locked in position over the medium and coarse screens. A simple turn and pull of one rod uncovers the screen for medium grinding, and the same movement of the other rod provides exceptionally fast coarse grinding. The unit is completely grain tight.

Every piece of Jacobson equipment is, like the "Master," the best answer to a specified need, and indicates that Jacobson will be satisfying customers for years to come.

Jacobson QUALITY

BLUEPRINT FOR PROFIT



Here's what you do

Combine the equipment listed below according to the recommendations of your Jacobson Sales Engineer, based on your local situation and grinding plans.

Here's what you can expect

TROUBLE-FREE OPERATION
EFFICIENT USE OF POWER
LOW LABOR AND MAINTENANCE COSTS
QUALITY GRINDING
CUSTOMER SATISFACTION
INCREASED PROFITS

Here's the Jacobson equipment you need

1. Hammermill
2. Drag Feeder
3. Crusher
4. Separate Motor Driven Fan
5. Collector
6. Mixer
7. Molasses Blender
8. "Economy" Alnico Permanent Magnet
9. Inclined Screw
10. Truck Hoist
    Corn Sheller
    Corn Cutter

Get the story now... write for information and the name of the Jacobson Sales Engineer near you

JACOBSON MACHINE WORKS

1090 TENTH AVENUE SOUTHEAST Dept. M MINNEAPOLIS 14, MINNESOTA

dred who had relied on this transportation consequently had to seek other means of getting to French Lick. . . . Then came the threat of a railroad strike, first called for the Saturday before the convention and at the last minute postponed to the Thursday of convention week. No one could tell whether he would be stranded or for how long. . . . As a result, there were numerous cancellations or non-appearances but, considering all of the difficulties, it was remarkable that there were not more.

On top of everything else, it rained, rained, rained. . . . There were a couple of days when golf could be played comfortably, but at other times the water poured out of the skies and the fairways and greens were oozing moisture. . . . When the railroad strike went into effect, a rumor circulated that sale of gasoline would be limited to trucks moving essential supplies, which caused the motorists at the convention to roll toward home just as quickly as they could get going. . . . A double line of feed men checking out extended across the hotel lobby from the cashiers' windows Friday morning, and the congestion of baggage and cars in front of the hotel was terrific. . . . Every car that had room for an extra passenger or two was loaded to capacity. . . . Bill Huge, McMillen Feed Mills, Fort Wayne, who flies his own plane, had his machine parked at the French Lick airport and the attendants were slow in getting it into a hangar when the high winds struck on Friday. Bill's plane was blown into another and the tail assembly was wrecked so he and Elmer Korte, of the same company, who thought they had the transportation problem licked, had to beg an auto ride home just like most of the others.

The hotel congestion was responsible for much less entertainment than in former days, but the Borden Co. kept its usual open house to serve cheese and other delicious foods to the conventionites. . . . Rather ironical, in view of the numbers who were wondering just how and when they were going to get home, was the appearance on Wednesday of a U.S. army caravan in the park across the street from the hotel, which set up an elaborate display of German equipment, including a dozen aircraft with speeds ranging up to 600 miles an hour.

v v

1947—CHICAGO

Although the meetings were held at the Drake Hotel, the record attendance—more than 1,250—made all of that section of Chicago appear to be a feed manufacturers' city for the three days, for every hotel in the neighborhood was filled with feed men, as was Don the Beachcomber's. . . . No one slept at the latter officially, however. . . . Charles Davidson, Stone Mountain Grit Co., Lithonia, Ga., was passing out to friends tickets on a drawing for a 1947 De Luxe Ford, to be held at Lithonia, July 4. . . . A bus load of feed men, headed by Dolph Hill, Golden Eagle Milling Co., Petaluma, Cal., and Jim Wall, J. H. Scott Co., San Francisco, left Chicago Saturday morning for an inspection of the plant and laboratory of the Western Condensing Co. at Appleton, Wis.

Among those kept away from the convention by illness were Gil James, Purina Mills, Kansas City; Babe Eddie, Superior Feed Mills, Oklahoma City, and John Peek, Percy Kent Bag Co., New York. . . . A group of friends at the meeting signed their names to a round robin letter to be sent to the former two, and the latter was the subject of many inquiries addressed to his brother, Dick.

v v

1948—CINCINNATI

Whoof! Where did all those guys come from? . . . The official registration of about 1,150 fell slightly short of the 1947 record, but the crowds either were more concentrated or a lot of persons failed to register. The jam-up around the Netherland Plaza made it look like the molasses barrel during fly time. . . . There is no doubt about feed manufacturing being a national industry or about the AFMA convention being nationally representative. . . . Present were delegates from 38 states, the District of Columbia and two foreign countries—Canada and England.

Charles Dawe, Dawe's Products Co., Chicago, has just returned from Mexico and is busy preparing for an extended trip to Europe. . . . Some of the wits renamed the Lookout House the Look! Outhouse, but full credit should be given for an exceptionally attractive night club and a good party. The gaming tables received a good play, but we heard of no particularly excessive losses—or winnings, for that matter.

George Smith, Archer-Daniels-Midland Co., Minneapolis, was seated in a plane from Chicago to Cincinnati next to a young mother with a few months' old baby, and ended up by holding her in his lap part of the way (the baby, not the mother). . . . Word came during the convention of the appointment of Charles Sawyer, Cincinnati lawyer, as Secretary of Commerce in President Truman's cabinet. Mr. Sawyer is a son-in-law of A. E. Lippelman, Ubiko Milling Co., Cincinnati.

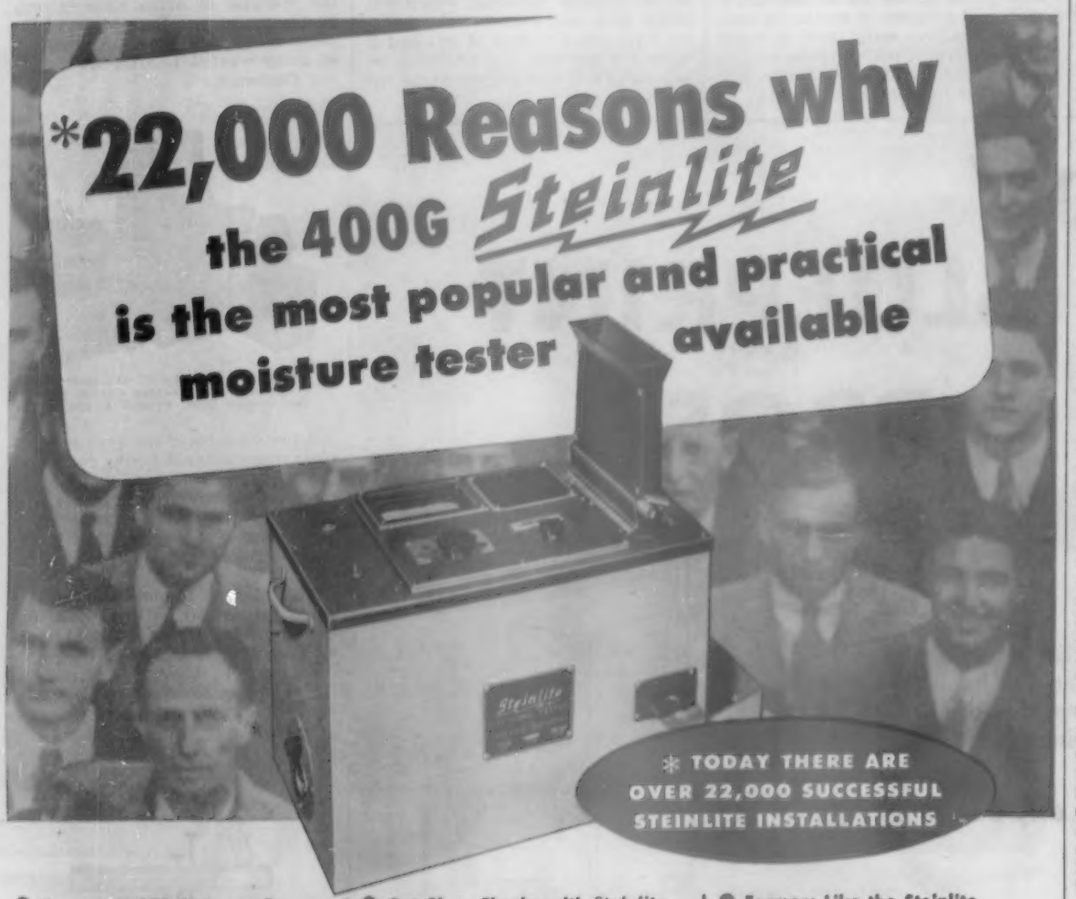
Bill Huge, Central Soya Co., Fort Wayne, and Clyde Hendrix, Pillsbury Mills, Clinton, Iowa, each flew their own planes to the convention. When they were about to leave Cincinnati for their homes Friday afternoon, each man separately told this correspondent that he would have to buck strong headwinds all the way. Maybe it's that sort of thing, with the wind blowing both ways at once, that causes all the tornadoes. . . . Pete Chichester, Dietrich & Gambrill, Frederick, Md., claims some credit for helping to develop Charlie Keller, the Yankee outfielder, who was a 4-H Club boy under Pete when the latter was a county agent. . . . In parting, we must report that one of the nutritionists at this year's meeting was asked what a feed manufacturer should consider the proper percentage of whiskey per ton of feed.

v v

1949—CHICAGO

Registration of more than 1,200 at the American Feed Manufacturers Assn. convention this year is an increase of over 400% from the first one ye editor attended, back in the late 20's. . . . And that is a pretty good reflection of the industry's growth. . . . In retrospect, at least, those seem like leisurely days. Everyone knew everyone else and had no difficulty in locating each other. Golf was given fully as much prominence as the convention program, and the display of golf prizes in the hotel lobby would have swung many a corn deal during the not-so-long-ago black market period. . . . The whole convention could be seated comfortably in one room for the big night—the

*22,000 Reasons why
the 400G Steinlite
is the most popular and practical
moisture tester available



* TODAY THERE ARE OVER 22,000 SUCCESSFUL STEINLITE INSTALLATIONS

● Run up to 400 Tests per Day
During the bean season we run up to 400 moisture tests per day. We have used a Steinlite since 1942, and think the 400G is the finest tester for on-the-spot testing.
Williams Milling Co.

● Get Close Checks with Steinlite
We are getting very close checks here in Topeka, with a 400G on our moistures, and are very happy about it. We tried other testers but they didn't quite fill the bill so we returned them.
Topeka Mill & Elevator Co., Inc.

● Farmers Like the Steinlite
With a record of 75% of our recent tests within .3% variation, and the remainder on the nose to show our farmer customers, you can see that I am a satisfied Steinlite customer.
C. M. Kerlin Elevator

● Can Be Checked in the Field
Being able to check and adjust the 400G Steinlite without sending it to the factory saves time and keeps the tester in condition for accurate moisture tests at all times.
Jasper County Farm Bureau

● Built-In Thermometer Is Tops
We have always used Steinlite with excellent results. We particularly like the built-in thermometer in the 400G, and the new easy-to-read charts.
Frankfort Grain Company

● Can Be Operated By Anyone
The 400G Steinlite is so easy to operate that any of our employees can operate it. It is also fast and efficient. We are very much pleased with it.
Woodburn Equity Exchange

EXCLUSIVE DISTRIBUTORS OF STEINLITE MOISTURE TESTERS

"World's Leading Supplier of Grain Testing Equipment for over 43 Years"
SEEDBURO
EQUIPMENT COMPANY

SEEDBURO EQUIPMENT COMPANY, Dept. FS-5
618 W. Jackson Blvd., Chicago 6, Illinois

Please send me full information on the 400G Steinlite Moisture Tester for Grains, Seeds, Mixed Feeds, Nuts, Meal, Flour and many other commodities of consistent and chemical granular nature.

Name _____
Address _____
City _____ State _____

Good News for you and your poultrymen!

Whitmoyer WHITSYN

Patent Pending

A new concept in COCCIDIOSIS CONTROL

that gives maximum effectiveness with a minimum drug dosage

Two important medical principles—*never before applied to the problem of coccidiosis control*—combined in **WHITSYN** to give poultrymen a "minimum drug dosage" product, effective against *all* types of this disease—stubborn intestinal as well as cecal. These two principles are

SYNERGISM and MULTIPLE-BLOCKING

These are words worth remembering, for they may mean almost unlimited sales possibilities for you as soon as poultrymen realize how truly potent **WHITSYN** is.

SYNERGISM: Whitmoyer scientists have discovered that 2 powerful anti-coccidial drugs *used in combination* control this disease many, many times more effectively than would normally be expected by *adding the individual effect of each drug.* This is called synergism between drugs. *Each makes the other work better!*

MULTIPLE-BLOCKING: Whitmoyer also discovered that these two synergistic drugs attacked the coccidial organism at not just one, but at several vital spots simultaneously. **WHITSYN** has a *multiple* action.

HERE'S WHAT WHITSYN TESTS SHOW: Thorough, fast action on *all* types of coccidiosis—even the stubborn intestinal type... Less mortality... Less loss in weight... Fewer culls... Less morbidity.

WHITSYN has been used successfully where hemorrhagic disease complicates the coccidiosis without further aggravating the tendency to hemorrhage. There is apparently less tendency to undesirable side effects because the synergistic action makes lower than normal drug levels so highly effective.

This *safer,* more *economical,* more *complete* control of *all* types of coccidiosis means *steady, profitable, repeat* business for you.

PRICED RIGHT: **WHITSYN** costs no more. This offers you a double-edge sales weapon—premium effectiveness without a "premium" price.

3 TYPES OF WHITSYN: So that you will be able to recommend and sell a **WHITSYN** product for *each* phase of coccidiosis control, there will be three easy-to-use forms:

(1) **WHITSYN-5** for *control* of outbreaks of coccidiosis;
(2) **WHITSYN-10** for *prevention;*
(both are dry, free-flowing and mix readily in the feed)
(3) **WHITSYN-S** for *treatment* in the drinking water.

Whitmoyer ANTIBIOTICS

NEW Whitmoyer AQUATRACIN for poultry drinking water

Dissolves instantly and completely

As the latest addition to its line of profitable poultry specialties, Whitmoyer is proud to announce **AQUATRACIN**... a new antibiotic *drinking-water* control for Blue Comb Disease, Pullet Disease, Mud Fever, Non-specific Enteritis, Chronic Respiratory Disease.

Your customers will like **AQUATRACIN.** They'll find it is *instantly* and *completely soluble,* easy-to-use—really does the job. *You'll* like it because it is the kind of product that sells rapidly and profitably.

Whitmoyer Laboratories is convinced that with **AQUATRACIN,** they are able to offer you a practical, tested antibiotic that will become invaluable to poultrymen. It is quick, effective, economical.

NEW Whitmoyer KEMITRACIN

Growth-stimulating and therapeutic antibiotic for feeds

Improve your feed formula with "low levels" of growth-stimulating **KEMITRACIN**... the new miracle drug of the antibiotic family that will put more weight-gain per pound into your feed.

Use it at "high levels" to make up a mash that can be fed to help control outbreaks of Blue Comb, Non-specific Enteritis, and Chronic Respiratory Disease.

Customers will like feed supplemented with **KEMITRACIN**—they'll find their flocks are healthier, more productive. *You'll* like selling feed supplemented with **KEMITRACIN**—you'll find repeat business steadier, profits greater.

KEMITRACIN is a free-flowing, non-caking powder, impervious to insects. It's stable on storage, easy-to-use.

FOR COMPLETE INFORMATION AND PRICES on WHITSYN, AQUATRACIN and KEMITRACIN, write to Whitmoyer Laboratories, Inc., Box F-55, Myerstown, Penna.

Now in our 25th year

Whitmoyer LABORATORIES, INC.

MYERSTOWN, PENNA.

Products of Scientific Merit

DISTRIBUTORS: NEW ENGLAND: Grandone, Inc., Needham, Mass.
CANADA: Whitmoyer Laboratories, Ltd., Yarmouth, Nova Scotia

JOBBERS OR WAREHOUSES LOCATED AT MANY CONVENIENT POINTS:

Salisbury, Md.	Jackson, Miss.	Des Moines, Iowa
Harrisonburg, Va.	Rogers, Ark.	Evansville, Ind.
Raleigh, N. C.	Fayetteville, Ark.	Ft. Wayne, Ind.
Atlanta, Ga.	Lubbock, Texas	Botkins, Ohio
Jacksonville, Fla.	Salt Lake City, Utah	Minneapolis, Minn.

MIX IT *better*... MIX IT *faster*

WITH A **MUNSON Rotary Batch Mixer**

You can mix it better and faster in a Munson . . . the Rotary Batch Mixer with *tumbling action* for intimate blending of dry ingredients. Its famous mixing action assures extreme accuracy of blend without grinding or reducing size of ingredient particles.

Munson Rotary Batch Mixers are available in capacities from 20 to 250 cu. ft. The basic Munson design can be altered to fit *your* individual requirements. Can be fitted with internal spray for introduction of limited amount of liquid.

Lower horsepower requirements and low operating costs have made Munson the first choice for performance and economy in hundreds of feed mills. Let our engineers help solve *your* mixing problems. Write today to:

MUNSON MILL MACHINERY CO., Dept. FS-535, UTICA, N.Y.

HAMMER MILLS • ATTRITION MILLS
ROTARY CUTTERS • BATCH MIXERS
GRADERS • MOLASSES BLENDERS
CRUSHERS • SCALPERS • CONVEYORS

Make it a **MUNSON** and make it better

STABILIDE

reduces iodine loss

STABILIDE®—potassium iodide *stabilized* with calcium stearate—is designed to iodize feed, salt and calcium carbonate mixtures. Try STABILIDE. It may solve your problem of iodine loss in storage.

Scientists at the Mellon Institute found that "an iodized livestock mineral containing 0.21% stearate-coated potassium iodide lost 0.5% of the original iodine content during two months, while an unstabilized mineral containing the same ingredients lost 14% of the iodine content."*

STABILIDE
REDUCES RATE OF IODINE LOSS
EASY TO MIX THOROUGHLY
FREE FLOWING

Write today to your nearest Mallinckrodt office for samples, prices and complete literature.

Other Mallinckrodt iodizing mixtures are Ioflow®, Iomag®, and Iodide Mixture.

*"Stabilization of Iodine in Salt and Feedstuffs" by F. F. Johnson and E. E. Frederick, SCIENCE, Oct. 4, 1946, Vol. 92, PP515-516.

Mallinckrodt

MALLINCKRODT CHEMICAL WORKS
Mallinckrodt St., St. Louis 7, Mo. 72 Gold St., New York 8, N. Y.
CHICAGO • CINCINNATI • CLEVELAND • LOS ANGELES • MONTREAL • PHILADELPHIA • SAN FRANCISCO
Manufacturers of Medicinal, Photographic, Analytical and Industrial Fine Chemicals

annual dinner. . . . Viva Progress! we always say, but still we sort of liked the suggestion of Oscar Straube, Pay Way Mills, Kansas City, who also is getting along in years. He proposed that the AFMA hold its big business like convention in a city hotel, but that immediately afterwards the oldtimers get together and hold another one at French Lick. Probably the spirit would not be the same, however. In their present dignity, for instance, it is hard to imagine Quaker Oats' Doc Hawley taking over as fry cook in a hamburger joint, or Nopco's Les Brown wrapping a towel on his head and playing an oriental drum at a cocktail party.

Speaking again of oldtimers, the convention this year did a nice thing by naming Warren Anderson, Flour & Feed, Milwaukee, treasurer emeritus of the association and presenting him with a plaque. Andy is credited with the actual founding of the association 41 years ago, and had served as treasurer since that time. At the first meeting, by the way, the "registration" was 12.

Another vacation party of feed men, but scheduled for this summer, will include Walter Berger, AFMA high shogun; Jim and Lawrence Murphy and Robert Spitzer of Murphy Products Co.; Wally Griem, Wisconsin feed control official and poker expert; Dave Steenbergh and Lefty Roessler, Feed Bag, Milwaukee, and W. C. Pratt, W. C. Pratt Co., Chicago. They will go to the latter's cabin on Lake of the Wods, near Nestor Falls, Ont., for fishing, tall talk and other sports.

Abrasions, contusions and not-feeling-so-well department: Lloyd Riford, Beacon Milling Co., Cayuga, N.Y., was kept from attending the convention by an influenza attack. . . . Joe Nelson, Armour & Co., Chicago, was present, but it was his first day out of the hospital. His doc told him to have some drinks and a good time. . . . John Melville, Central Feed Supply, Chicago, also was in attendance, sustaining a slipped sacroiliac, which he said he got from lifting a cake of soap. Strange things do happen. Another friend of ours recently broke his arm planting a rose bush. . . . John Rayney, Silmo Chemical Co., Chicago, is starting to lose his teeth, and had some appointments lined up with his dentist immediately after the convention. . . . Floyd Wilson, National Alfalfa Dehydrating & Milling Co., Lamar, Colo., missed the meeting because of eye trouble. . . . Wirt Walker, Arcady Farms Milling Co., Chicago, couldn't get down to the Stevens, but he saw a lot of friends at Presbyterian Hospital in Chicago, where he is recovering from a fractured elbow and broken hip, the result of being thrown from a horse a few weeks ago. The AFMA board of directors, of which he is a member, sent a resolution to him at the hospital, expressing condolence and praising his work as chairman of the association's membership committee.

H. E. Frederick, Scott Mills, Marysville, Ohio, stod in the lobby one day trying to explain to Chris Miller, Russell-Miller Milling Co., Minneapolis, the difference between FDR's New Deal and Harry Truman's Fair Deal, which should have had a place on the convention program. . . . Swansons were all over the place. At the Borden party, Carroll Swanson, Des Moines, introduced his son to R. A. Swanson, Clinton Industries, just as Hank Swanson, White Laboratories, Newark, walked up. . . . Gradon (Duke) Swanson, Continental Grain Co., Omaha, was paid a surprise visit at the convention by his son, who is stationed at Fort Monmouth, N.J., and came to Chicago on a three-day pass. . . . That the feed industry is news was evidenced by the fact that 31 representatives of the press were present at the convention. The association did a swell job of cooperating to make the meetings easy to cover.

WHAT—NO SPINACH?

From an advertisement in the Oct. 8, 1932, issue of Feedstuffs: "Dehydrated Vegetables — Contain dried carrots, tomatoes, celery, onions, cooked and dried potatoes and beans. Guaranteed analysis — protein 25%, fat 3.50%, fiber 9%. No other product can replace garden vegetables for feeding. Green feed no longer necessary if 5% of . . . vegetables are used in poultry mashes, dog feeds, fox and rabbit rations."

1950 — CHICAGO

It begins to look as though the Stevens could be called the permanent convention headquarters of the AFMA. . . . There just aren't many other hotels large enough to take care of the meeting adequately, and the central location of Chicago also gives Hilton's largest an advantage. . . . The 1,429 figure announced as the official registration broke all AFMA records, and it probably would have been ex-

Positively the Finest *in Feed* Merchandising say KASCO Dealers

"Sold 14 new feeders first week after the first session."

"Greatest aid in selling feed I've ever seen."

"Sold 49 more tons in July as a result of the training I'm getting."

Kasco's "Feed Merchandising School" held every four months brings feed dealers and their employees the very latest selling and merchandising ideas as taught by experts. It creates new "Supersalesmen" and shows them how to give better service to their customers. This powerful sales training is adding hundreds of dollars to our dealers' profits. You, too, can enjoy the advantages of Kasco training. *Write today.*

KASCO MILLS, Inc.
WAVERLY, N.Y. • TOLEDO, OHIO

there is no substitute for Experience

CHASE BAG COMPANY

Reliably serving the American Feed Industry for over 100 years

THE ONE SOURCE FOR ALL YOUR PACKAGING NEEDS

- **CHASE MULTIWALLS**
- **CHASE BURLAP BAGS**
- **CHASE COTTON BAGS**

You Can Rely on

CHASE QUALITY, UNIFORMITY AND SERVICE

Make one call—
Order any or all from:

Chase Bag Company
309 W. Jackson Blvd., Chicago 6, Ill.

Personal Service and Prompt Shipments from 30 Nationwide Branches and Sales Offices

CHASE BAG Company

EXTENDS 25th ANNIVERSARY

Congratulations

to FEEDSTUFFS!

panded to close to 1,500 if all locals and others who did not wear a badge were included. . . . A Southern Baptist Assn. convention was running concurrently with the feed meeting at the Stevens, and hordes of Truman Democrats appeared on the scene late in the week to greet the President on the latter's "non-political" Chicago stop. . . . You couldn't tell a feed man from a Democrat or a Baptist without a badge.

Oddly enough, a program that would have settled agriculture's future prosperity might have been arrived at if all of those present in Chicago could have met and agreed on a policy. Besides Truman, Brannan and many other government hotshots, there were most of the leading feed processors of the country, plus 33 leading agricultural economists at the AFMA meeting, plus the top management of almost every principal flour milling company attending the annual meeting of the Millers National Federation at the Edgewater Beach, plus directors of the National Grain Trade Council meeting at the Union League Club, plus members of the American Corn Millers Federation, plus high executives of the country's leading baking companies attending a cornerstone laying at the new building of the American Association of Cereal Chemists at the Sheraton. For good measure, the super market operators also were convening in the Windy City.

At the dinner marking the grand premiere of the industry movie, "Growth of a Nation," someone remarked that the feed men certainly look prosperous and someone else aptly said, "Why shouldn't they?" . . . Ed Glennon, AFMA secretary, who handles many of the detailed convention arrangements, developed a fever of 104 degrees the day before the meeting started, and could make only one appearance at the big doings. That was at the dinner, and he returned home and to bed immediately thereafter. Late reports are that he is in good health again and talking just as much as ever. . . . Several of those who attended the convention went right on to the Edgewater Beach Hotel for the Millers National Federation meeting. Among these gluttons for punishment were Bill Bomar, Bewley Mills, Fort Worth, and J. C. Mitchell, vice president and general manager of the Burrus interests in Texas. Bill Bomar really made a trip out of it, for he attended the Louisville Derby on the week-end before the AFMA convention. . . . Some others who did double duty headed from the Stevens for Des Moines for the annual outing and golf party of the Des Moines Feed Club.

Dan Davis, of Nopco, now a veep of that company, attended his first feed convention since the old French Lick days and said he couldn't recognize it as the same meeting. Another oldtimer was Max Nowak, former feed manufacturer now in the warehouse business at Hammond, Ind. . . . Kurt Koster, a partner in Koster Handelsgesellschaft, Hamburg, Germany, who is in the U.S. for a month's tour of feed industry accounts, reported amazement at the way the feed men combined business and sociability. He said that feed nutrition knowledge in the U.S. was at least 20 years ahead of that in Germany and his mission to the states is to learn as much about these advances as possible. Mr. Koster is an importer and exporter of feed ingredients.

That rumpled appearance displayed by the usually immaculate Oscar Straube, Pay Way Feed Mills, Inc., Kansas City, was not a New Look from Esquire. He arrived in Chicago early one morning by train and decided to have breakfast at the station before going to the hotel. He left his luggage by the cashier's counter, and when he went back found that someone had walked off with it. He never found any trace of it, and went through the four days without so much as a clean handkerchief. . . . Another incident of the type which you may have thought occurred only in a gag writer's imagination: Dr. J. E. Campbell of the University of Wisconsin came into the press conference on antibiotics, which was being held in the upper tower at the Stevens. He joined the professors and other experts sitting as a panel to answer questions. In the audience was J. Wesley Nelson, nutritionist for Nutrena Mills, Inc., Minneapolis. The latter started asking the former some questions concerning dog food, and everyone was confused until it was discovered that Drs. Campbell and Nelson both were in the wrong meeting. Each thought he was attending the dog nutrition meeting which was being held at the same time in the lower tower.

WHAT DO YOU NEED?

From the May 21, 1930, issue of Feedstuffs: "J. P. Parks, known to a large part of the feed trade as 'Jerry,' has established his third feed brokerage office (at Buffalo). These are located in Kansas City, where he maintains his headquarters, Chicago and Buffalo. He handles just about everything in the way of feed, is a prodigious worker, both for his company and for the trade associations in which he is interested, and is usually among the first arrivals at any of the larger conventions of the feed industry."

1951 — CHICAGO

Big attendance or small attendance, one convention problem is always the same—it is a struggle to round up a quorum in the morning to get the session started on schedule. . . . Despite a record-breaking registration of almost 1,500 at the 1951 AFMA convention, there were not enough of the brethren on hand at 10 o'clock Friday morning even to fill the back rows, and the proceedings were late getting under way. . . . By the end of the morning, however, everyone had had his eggs and coffee and was able to sit up and applaud.

On the other hand, some of the experts in such matters—and that's not us—were claiming that the Sunshine Social Hour late Thursday afternoon was the world's largest cocktail party. Two thousand by count passed through the doors of the Stevens ballroom and ran up a $2,700 bill for liquids and about a $750 tab for those little things called hors d'oeuvres. The huge crowd was handled very smoothly this year and lots of the convention goers voted aye to the substitution of this event for the time-honored convention banquet. They said it made it possible to visit with many more people than the few one could chat with at a banquet table. . . . There were 15 "unlisted convention activities"—where attendance was limited to those involved—in connection with the AFMA meeting of this year. These include such things as the board meeting, the feed control meeting, the nutrition council and traffic committee meetings, etc. . . . The Poultry & Egg National

REPRINTS AVAILABLE for your bulletin board

Is the Solvent Process
LINSEED MEAL
just as good — or better?

OF COURSE! Note these authoritative findings from recent state college tests:

Ohio Agricultural Experiment Station:
1. No difference in palatability after a comparative test with milking cows.
2. Body weight changes, milk production, other feeding values not changed.
3. Hair and condition the same.
4. Solvent extracted linseed meal has much greater water absorptive capacity.

Iowa Agricultural Experiment Station:
"The factors responsible for 'bloom' in cattle fed linseed meal proved not to be tied up with the unsaturated fatty acids in the oil. Linseed without added oil should be just as effective as old process linseed meal in promoting high finish."

N. N. Allen, Journal of Dairy Science 33, 1950:
"No practical difference in palatability of the expeller and extracted meals when used in a dairy cow ration at the level of 28 percent."

McGill University:
McGill University scientists stated: "Quite aside from its animal nutrient content, this product is one of the most beneficial known for toning up rundown animals and producing a 'bloom' on stock. It is also laxative and cooling to the digestive system, which fact adds another sphere of usefulness to its credit."

These and other scientific tests continue to show that Solvent Extracted Linseed Meal—like Minnesota 36%—has all the advantages of "old process" expeller meal, with some new ones added.

So whether you sell it straight or mix it into your own feed, specify Minnesota 36% Linseed Oil Meal—available in pellets or meal form.

Write . . . Wire . . . Phone for Today's Quotations

Minnesota
LINSEED OIL COMPANY
Minneapolis 21, Minnesota • Sterling 1-9511

SALES
SALES
SALES

Continue to grow for Supersweet dealers!!

- ☑ High Animal Protein, Scientifically Balanced with Other Ingredients!
- ☑ Superior Quality Animal Proteins! Positive Laboratory Control!
- ☑ Good Farmers are Telling Their Neighbors That *Supersweet* Feeds GO F-U-R-T-H-E-R!
- ☑ *Supersweet* Recognizes the Importance of Serving Agriculture on a Sound Basis.
- ☑ Direct to the Consumer Advertising Makes Your Sales GROW! **GROW! GROW!**

Supersweet
FEEDS

Willmar, Minn. **New Ulm, Minn.** Salina, Kans.

THE *Marion* MIXER!

MIXES *ANY* MOLASSES PERCENTAGE WITH *EASE!*

World's Most TROUBLE-FREE Molasses Mixer. Materials are mixed, blended and cross-blended constantly—away from the ends, toward the center for the most uniform mix possible. Handles toughest mixes. ½ to 1½-ton capacity.

NOW . . . NO WASTE, NO GUESSING!
The MARION MIXER provides
COMPLETE accuracy in Molasses Mixing

MIXES WET MATERIALS
- Molasses Feeds
- Fish Solubles
- Oils
- Hay and Molasses

MIXES DRY MATERIALS
- Dry Feeds
- Fertilizers
- Trace Minerals
- Alfalfa Blending

Write for new literature and names of users today!

RAPIDS MACHINERY COMPANY
887 11th Street • Marion, Iowa

VITAMINS D and A—*THE Inexpensive WAY!*

DEVOLD VITAMIN OILS

Used with confidence by Feed Millers and Animal Breeders for nearly 30 years

QUALITY • TESTED • FRESH • LOW FFA CONTENT
All Potencies

DEVOLD Vitamin A&D FEEDING OILS

DEVOLKOD® VITAMIN OILS
Fortified Cod Liver Oils

DEVOLKOD® Non-Destearinated
COD LIVER OIL USP

DEVOLD VITAMIN A OILS

PEDER DEVOLD WHEAT GERM OIL

Write, Wire or Telephone for Prices!

PEDER DEVOLD OIL CO., 215-FM Fourth Ave., New York 3, N.Y.

Board sponsored a breakfast, and the turkey boys also broke their early morning bread together one day, discussing their prospects and problems. . . . There are 76 members of the AFMA Nutrition Council now. . . 34 members of the association's Feed Survey Committee were present at the convention.

Tom Jukes, Lederle, was wearing a tennis shoe on one foot because of a broken leg sustained in a skiing accident during the winter. . . . Hal McGeorge, Royal Stafolife Mills, Memphis, has been having serious enough trouble with an ulcer to have required several blood transfusions, but on Thursday evening he was dancing with one pretty young girl after another. One of his pals asked him, "What kind of blood did they put into your veins, anyway?" "I'm not sure," Hal replied, "but I think it was sailor's blood." . . . Commercial Solvents Corp. lined the walls of its suite with clever and amusing caricatures of those who called there. The cartoonist worked fast and steadily, and the resultant "rogues' gallery" furnished many laughs.

At the luncheon on Friday, the purpose of which was to present plans for a permanent Feed Technology School at Kansas State College, Dr. James A. McCain, president of the college, was scheduled to speak. He couldn't make it, however, because he came down with chicken pox just prior to the convention, and his place was taken by R. I. Throckmorton, dean of the school of agriculture. . . . Vic Jay, Nopco sales manager from Harrison, N.J., went to the AFMA convention via the Texas feed manufacturers' meeting in San Antonio and the Kentucky Derby in Louisville. Vic studies the Derby form sheet carefully because he makes his only horse race bet of the year on that celebrated gallop. He backed the most consistent horse in the race this time, he revealed. His nag ran 18th all the way.

Lloyd Riford, Beacon Milling Co., Cayuga, N.Y., attended the convention and looks hale again after developing ulcers in his service with the OPS in Washington. . . . Oscar Straube, Pay Way Feed Mills, Inc., Kansas City, and Gus Ackerman, Oyster Shell Products Corp., New Rochelle, decided to play a joke on a friend when they were left alone in the latter's room one day. They planned to lay all of his clothes out around the room, with placards and other such decorations as balloons, etc. They called the hotel operator and asked that some balloons be delivered to the room. She connected them with the drug store, and what was delivered to them proved the sophisticated nature of the Stevens service to its guests.

The convention was saddened by the death of L. M. Montgomery, Texas representative of the animal feed department of Lederle Laboratories. Monty died of a heart attack early in the morning of May 11 after he had gone to bed in his hotel room. . . . Jerry Parks, the Kansas City millfeed baron, was complimented on the advertisement he carried on the back cover of the May 5 Feedstuffs. "Well," he said, "I was proud of it until Thursday evening, when I went out of the hotel and saw a copy of the paper lying alongside the sidewalk in the rain, with my ad facing up. All at once it struck me that there, at last, was Jerry Parks lying in the gutter."

Roland Bethke, Ralston Purina Co., St. Louis, made it to the convention, but he might not have. He and Mrs. Bethke are just moving into a new home in St. Louis. Both of them had been busy all afternoon unpacking and arranging their belongings. They had a dinner engagement and had not left much time to clean up and dress. Doc, clad only in shorts, was in the bathroom shaving and his wife was taking her bath when the bathroom door slammed shut and locked. They could not open it, the window was too high from the ground to jump safely, and the house was too far away from neighbors to attract anyone's attention. Doc found a nail file in the medicine cabinet and by patiently working at the lock finally managed to open the door after 1½ hours. There now are no locks on the bathrom door at the Bethke house.

Few of the conventioneers knew it, but fire broke out on the 12th floor of the Stevens during the meeting. Feed men evidently don't have the sidewalk superintendent's complex so evident in city crowds, because the lobby group was pretty nonchalant about the whole thing. The firemen, carrying hose and axes, had to elbow their way through a phalanx of indifferent feed men and hardly drew a glance from the lobby bunion busters.

v v

1952—CHICAGO

A flower by any other name? The Conrad Hilton's just the same. . . . The AFMA convention hotel now is known as the Conrad Hilton instead of the Stevens, but the assembly line

4 SOUND REASONS

WHY NICHOLS FEMALES MAKE PREFERRED BROILER MOTHERS

- First, Nichols females are based on a strain of New Hampshires that has led the field for years. (Ask any hatcheryman).
- Second, this outstanding New Hampshire blood has been crossed with other Nichols strains to get all the best qualities for profitable broiler operations. (Ask any grower).
- Third, these new Nichols females have an amazing ability to combine with meat-type males such as the White Vantress or Indian River Lancaster. The resulting white crosses have an extra vigor, a terrific vitality. They are healthy and uniform, and run through the dressing lines at top speed. (Ask any processor).
- Fourth, their tender, tasty meat and appetizing yellow skin make a favored pack whether fresh or frozen. (Ask your wife).

Yes, your best buy in a broiler cross today is the one that's based on Nichols females. That's why more and more smart poultrymen check first for Mother Influence, the Nichols combinability factor that makes good broiler crosses great.

NICHOLS
POULTRY FARM, INC.
Box 42, Kingston, N. H.

The Feed Dealer From Indiana

Take a look at this fellow who just got out of the plane. He's got an air about him, a confidence. He's his own boss.

He's a feed dealer in a western Indiana town. In the last year he has fished the Lake of the Woods, bought a new car, and added a little to his bank balance.

These are things he's dreamed of since before he started in the feed business. That was some 12 years ago. He has other dreams still to be realized. The thing is, those dreams can become reality now. It wasn't always so.

When he first opened his feed store he had many bright hopes. He and his wife planned "someday" vacations together. They saved house plans for that brand new home they'd build "someday." There were many things they'd do "someday," after he'd gotten a good start and the business was rolling along.

The trouble was, the business wouldn't roll unless he was right behind it pushing—all the time. And actually, there wasn't much money to show for it. Fishing and vacations faded farther and farther away.

A couple of years ago, it came as a shock when he realized he had been in business almost 10 years, yet few of his dreams had come true.

For the first time, he stepped back and took a good look at his progress. It was immediately obvious, he had to work too hard to sell his brand of feed. Getting farmers to try it was a real tough job. But was there a brand of feed they would buy easily? He set out to find the answer.

He studied many brands but one in particular looked best for him . . . Nutrena.

He found Nutrena Feed ads interesting, informative, convincing. There were a lot more of them, too. (Nutrena ran more feed advertising in the farm magazines in 1954 than any other brand.)

He learned that Nutrena is a leader in product development. He found farmers knew and trusted Nutrena—even farmers who had never bought a pound of it. They spoke of Nutrena as a "quality" feed. His old customers told him they'd sure go along with him if he switched to Nutrena.

Nutrena dealers talked about heavy store traffic . . . how often new customers just walked in and became regulars. Consumer acceptance . . . Nutrena has it . . . and it makes selling easy.

Well—this all happened not so long ago. He's a Nutrena dealer now. He still sells the same customers, plus quite a few new ones. He's not wealthy yet—but he puts away a little cash every month. He's running his own business—and he's getting a lot more out of life.

Now—maybe you are doing fine in the feed business. If you are, that's wonderful. But if you have a hunch you could be doing better, if you have the imagination to see how your business can expand, if you have the urge or desire to enjoy more of the better things in life, you should talk to your Nutrena man—and soon.

To give you an idea of how he can help you, you should see a Feed Sales Analysis, prepared especially for your area. It will show how much feed you could be selling . . . how much more feed business you might get . . . how your sales stack up against competitors. Just drop us a line to get this going for you. Write today to

Market Analysis Department

Nutrena Mills, Inc.

200 Grain Exchange
Minneapolis, Minnesota
or
800 Provine
Memphis, Tennessee

technique of operation is unchanged. . . . Representation at the convention from California and Texas was reduced considerably by conflicting meetings of feed associations in those two states. . . . One of the amusing things at the convention was the widespread speculation as to what Walter Berger was going to do. The well kept secret was a principal topic of conversation, and rumor had him going with at least 20 companies. Some of the boys even took pleasure in starting rumors, just to hear what they sounded like when they had passed through several repetitions. . . . Ed Griffin, Allied Mills, Chicago, capped them all in his speech Friday morning when he presented Walter with a beautiful wrist watch as a gift from the AFMA board of directors. He told the convention that Walter had been ashamed of his alma mater's football team and that he was going back to Iowa State College as coach.

J. D. Sykes, Ralston Purina Co., St. Louis, in accepting congratulations from a friend on his election as chairman of the AFMA board, said: "Please remember that any mistakes made during the next year should be attributed to the 29 other board members." . . . At an AFMA board luncheon, with 37 members and guests present, a poll was taken on preferences for the next president of the U.S. There were 19 votes for Taft, 9 for Eisenhower, and others scattered through the list of candidates, including two for Truman.

What might not be such a silly question was posed by a quipster after a meeting of the feed technology advisory committee on May 7. In view of all of the drugs of various kinds now being incorporated into formula feeds, he wanted to know if the new School of Feed Technology at Kansas State College will include a College of Pharmacy.

v v

1953 — CHICAGO

From Abbott (Harold A., Funk Bros. Seed Co., Bloomington, Ill.) to Zook (B. Jesse, Allison, Steinhart & Zook, Indianapolis) there were 1,503 names officially recorded at the registration desk for the 45th annual convention of the American Feed Manufacturers Assn. . . . This set a new high record which has been true every year, we believe, since the late 30's. . . . Attendance this year compares with 1,462 in 1952, 1,365 in 1950. . . . Registration at the 1929 convention, the first year Feedstuffs started publication, was 275. There were almost that many representatives of various types of publications and other media at the 1953 meeting. . . . There were 137 suites booked at the Conrad Hilton by the conventionites, and if anyone attempted to make them all he would be a candidate for Skid Row.

Proving that it is the obvious that is easily overlooked: At the luncheon given by the AFMA board of directors on Thursday for various dignitaries, the invitation list was scrutinized closely to make sure that there were no inadvertent omissions. It was only at the last minute, however, that one was detected. It was Walter Berger, who resigned last year from the AFMA presidency, and who had originated the idea of the directors' invitational luncheon. . . . Donald Danforth, president of the Ralston Purina Co., St. Louis, attended his first AFMA convention, which was partly a tribute to J. D. Sykes, Purina vice president and AFMA chairman. . . . Larry Halbach, Pillsbury Mills, Inc., Clinton, Iowa, and Mrs. Halbach felt like the circus acrobat who leaps through a flaming hoop. On the way from the station to the hotel in Chicago, the taxi they were in darted across a bridge that was in flames—the last vehicle to get across. . . . No extra charge, the taxi driver said.

Clifford E. Ryan of the J. T. Gibbons Co., New Orleans, was called home on Wednesday when a fire severely damaged the company's mill. . . . Ed Dickey, sales manager for Honeggers' at Fairbury, Ill., was one of those who flew his own plane to the meeting and was able to berth it on the lakeshore airport which is almost walking distance of the Hilton. . . . Fred Hughes, Kansas Milling Co., Wichita, and Rudy Eschenheimer, the vitamin man from Chillicothe, Mo., were among those who stayed over Friday night to attend the Walcott-Marciano heavyweight title fight.

v v

1954 — CHICAGO

Two other conventions were in session at the Hilton the same week and one of them—the Premium Buyers' Exhibition—was a big one that had the lower lobby jammed. When Gene Holcomb, Borden feed advertising manager, wandered in to this gadget show, he was nearly mobbed by the traders wanting to sell something to Elsie.

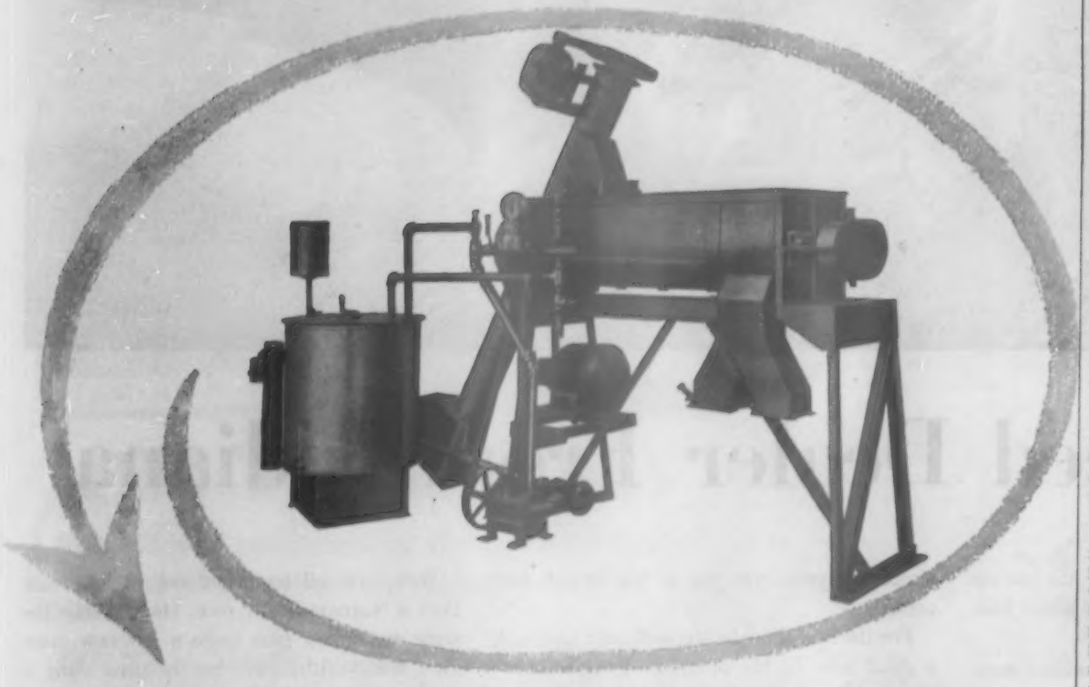
At the opening of the convention on Friday morning — the morning after the big Sunshine Cocktail Hour —the public address system in the meeting room gave out with a pretty raspy tone. The first speakers evidently thought the "bug" was in their "morning after" voices, not the microphone, because nobody tinkered with the device for some time. . . . J. D. Sykes, AFMA chairman, a man familiar with microphones from one end of the country to the other, finally was the amateur electrician who came to the rescue.

Babe Eddie, Superior Feed Mills, master of ceremonies for the four-man team of feed industry experts who discussed personnel problems, told the audience he felt he could make money for his company by hiring these experts at $100 an hour to advise him . . . promptly he got four acceptances from the experts, too.

PELLETING

From an editorial in the Feb. 1, 1930, issue of Feedstuffs: "The story in last week's Feedstuffs about the amazing increase in popularity of cube, nut and pellet forms of concentrated feeds in Europe may well cause U.S. feed manufacturers and their distributors to inquire, 'Where do we go from here?' Cubes, pellets and nut form feeds are claimed to save storage and handling charges, eliminate waste, make it impossible for the animal to select from the balanced compound, maintain the mixture in uniform state, and aid in economy and cleanliness. If, by experience, only a part of these things are found to be true, much of the ground gained in the manufacture of feeds may have to be gone over again. Is the preparation of animal feeds a fully developed and modern process, or does it stand where flour milling did in the days of the millstone or the little gristmill on the creek bank? What is the future in animal feeds? Big? Yes. But how big and through what developments and improvements?"

How can you improve on a hole-in-one;
score better than a ten-count knockout;
or bowl better than a 300 game?



Here is one example of **"Making Better out of Best"**

EUREKA DUPLEX-AGITATOR MOLASSES MIXER SYSTEM

A continuous Mixer broadly adaptable for rapid, uniform and economical blending of any required percentages of molasses or other liquids with dry-mixed ingredients. Provides everything necessary for turning out an evenly blended product — at large or small capacity — with a minimum of labor and general operative cost. Designed for either immediate bagging or spouting to bin storage.

Illustration shows "hot" Molasses System incorporating molasses heating tank with coils, electric heater with thermostat, thermometer, molasses pump, meter, strainer, relief valves, gate valve, control valves, pipe fittings and floor stand.

Incline screw conveyor receives dry-mixed feeds from batch mixer, or, an agitator-feeder can be mounted at mixer inlet when incline screw is not required.

If desired, a "cold" system is available and heating tank and heater are eliminated. The Duplex Mixer may be purchased separately for installation in a continuous feed line.

For "wet" feed blending, Duplex Mixers are equipped with drop-bottom cleanout doors, providing free access to interior. Sectional top cover doors are removable for cleaning from above. Both heavy duty shafts are fitted with staggered, adjustable pitch beaters . . . "a switch of the pitch" determines extent of mixing.

Capacity range, 5 to 50 tons per hour. Various Mixer sizes ranging in tank length from 6 to 15 feet. Complete information in Bulletin 165-DM. A post card will do.

jim: Sounds good lets get all the dope!
J.B.M.

EUREKA

S. HOWES CO., INC. SILVER CREEK, NEW YORK

Since 1856

For the FIRST time in years you can purchase BETAINE, the SUPERIOR methylating agent, at practically the same price as CHOLINE. Ask for our REDUCED prices.

CHEMO PURO MFG. CORP

Long Island City 1, N. Y.

● INCREASE FEED SALES!
● GET MORE REPEAT SALES!
● SATISFY MORE CUSTOMERS!

FEED MANUFACTURERS EVERYWHERE ARE DOING THIS WITH...

JERSEE VITAL-MIN

Here is a top quality Multi-Vitamin and Antibiotic Pre-Mix containing all the necessary Vitamins, Amino Acids, Trace Minerals and Antibiotics to make your feeds produce better results. The fast growing trend is toward Hi-Potency Vitamin and recommended levels of Antibiotic Fortification. Successful Feed Builders are increasing Sales, getting Steady Repeat Orders and developing greater customer satisfaction with JERSEE VITAL-MIN. They have relied on JERSEE . . . builders of Vita-Minized and Mineral Pre-Mixes for more than 25 years.

★ Successfully Serving Feed Manufacturers from Coast to Coast

JERSEE
VITAL-MIN
a Pre-Mix
VITAMINS MINERALS

THE JERSEE Co.

Write today for Dealers' Sales helps
MINNEAPOLIS
MINNESOTA

USDA Officials Look at the Industry

(Continued from page 39)

asked to speak to the gathering. He did. He described a development that occurred in Florida, where scientists experimented with a new variety of fruit. It seemed, according to Jim's recollection of the Danforth speech, that the fruit was perfect in color, weight, rotundity and general appearance, but, said Mr. Danforth, "it was still a lemon."

On that note, the complicated NRA code went out the window.

Seated at the meeting next to Mr. McConnell was none other than Hal McGeorge, better known as the man behind Royal Stafolife Mills, Memphis. Mr. McGeorge leaned over to Mr. McConnell and whispered, "Jim, there goes the code." And that was the bald truth.

Others rose to criticize the proposed code, too. Subsequently, a simpler code was adopted, and still later the whole NRA experiment was ruled unconstitutional.

At any rate, the joint industry work in trying to meet the government requirements of those days was among the projects of the American Feed Manufacturers Assn. and the trade which helped draw the industry together.

Eastern Feed Industry

Jim McConnell has considerable pride in the part of the feed industry in the deficit feed areas of the East, where the industry pioneered more economical use of the products of the Grain Belt against the inbred habits of farmers who saw only the direct feeding of grains as a means of producing meat, milk and eggs.

To Mr. McConnell, the feed industry grew from the cradle of the deficit feed area of the East. He may be disputed, but he probably never will be convinced that his statement is not wholly correct.

Although at the present time he is busy with sleep-destroying problems at USDA, it is likely that he will appreciate and some day answer disputants who may challenge his claim of eastern feed companies' leadership in building this ninth ranking manufacturing industry.

Jim modestly begged off further recitation of past industry events, preferring to yield to Walter Berger.

Protein Control

Jim first recalled with conscionable pride Mr. Berger's part in creating the protein control methods of World War II when there was a serious shortage of the protein needed to help provide the increased food supply needed. He remembered the tense industry sessions held at the Union League Club in Chicago at a time when the leaders of the industry debated the pros and cons and appeared to be ending with much heat, discussion and few results.

According to Jim, after two days of pulling and hauling, there arose from the back of the meeting room a gentleman from Iowa who then was not widely known to the leaders of the industry. He asked to be heard, and upon recognition, he went on to summarize the facts adduced at the meetings. Briefly, according to Jim, he set forth in broad strokes an operating policy which everyone had been thinking but had been unable to wrap up in a package. It was a policy for using the protein supplies most efficiently in formula feeds—a plan which would be sold to Washington as the best way to

Archer Linseed Oil Meal

absorbs more water... bulks feed in rumen... develops "show animal" bloom

Archer Linseed Oil Meal— absorbs 8 times its own weight of water.

Expeller-type Linseed Oil Meal— absorbs 6 times its own weight of water.

Cottonseed Meal— absorbs 1½ times its own weight of water.

Simple test shows Archer's extra water-absorbing "mucin." Compare Archer's superior water-absorbing action in this water-glass test. See how it bulks up in the rumen, permits greater penetration of rumen liquids containing micro-organisms, promotes better digestion, absorbs and removes harmful irritants, develops the "bloom" of good health, finer condition. That's because it contains more mucin with its amazing conditioning and water-absorbing capacity. More than any other protein supplement—including expeller-type linseed meals—so it makes any ration a better ration—yet costs less!

Get all the facts... Send for free booklet... Use this coupon

ADM

Archer-Daniels-Midland co.

Linseed Oil Meal, Grits, Pellets; Soybean Oil Meal, Pellets, Flakes; Dehydrated Alfalfa Meal and Pellets; Feed Grains; Mill Feeds; Wheat Germ Meal; Flax Screenings Oil Feed

Archer-Daniels-Midland Co.
700 Investors Building, Minneapolis 2, Minn.
Please send me free New Archer Linseed Oil Meal booklet.

Name_____

Firm_____

Address_____

City_____ Zone____ State_____

For Greater Tonnage SELL...

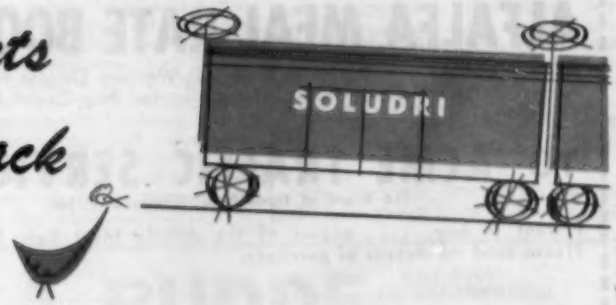
RED COMB POULTRY FEEDS
PIONEER HOG FEEDS
PIONEER DAIRY FEEDS

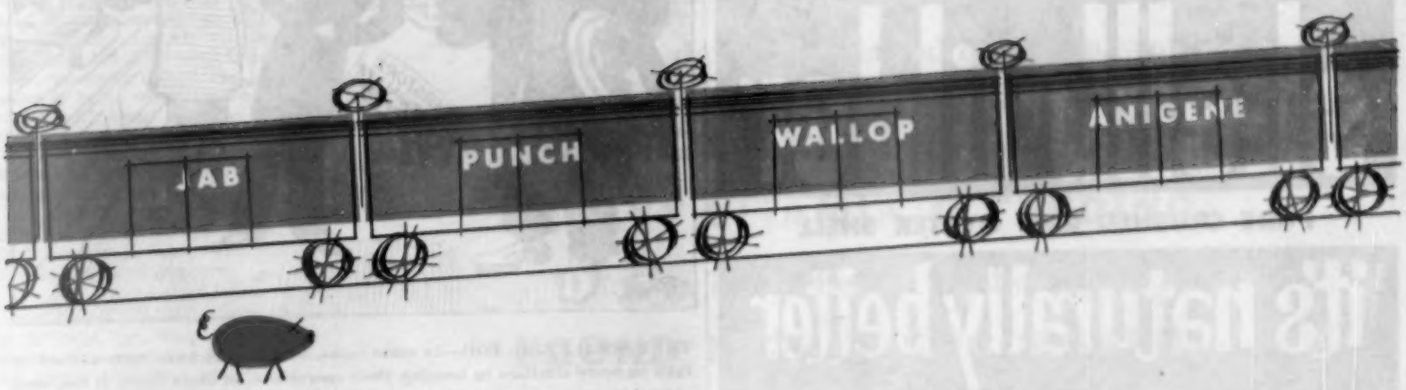
Known Since 1902
for Quality Results at Low Cost
Write for Complete Details

HALES & HUNTER CO.
141 W. Jackson Blvd., Chicago 4
Mills at: Chicago, Ill.; Marshall, Mo.; Wilmington, Del.; Lexington, Ky.; Cartersville, Ga.

Every Good Feed
Get your supplies from
HENRY K. FAUST
Successor to King Brothers & Co.
The Bourse, Philadelphia 6, Pa.

Schenley feed supplements keep customers coming back





Schenley's Anigene is your source of vitamin B-12. ANIGENE replaces, or greatly reduces, the need for animal proteins in the feed rations of swine, poultry, and calves. Its potency is so high that moderate amounts placed in the ration result in marked improvement in the growing animals.

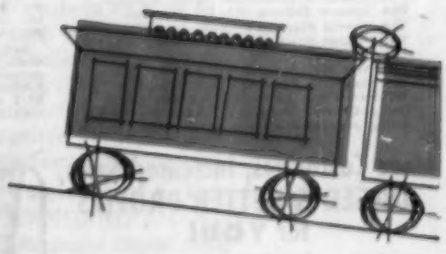
Schenley's Soludri (distillers solubles dried), the booster ingredient with complete balanced B-G Complex of vitamins. Soludri in your feed insures a high plane of nutrition for efficient production of animals and animal products.

Schenley's Distillers Dried Grains. High in TDN, rich protein and fat content: A fine feed supplement especially valuable for dairy, beef cattle and sheep.

Schenley's PUNCH is a antibiotic supplement which contains 3 milligrams of B-12 and 2 grams of PROCAINE PENICILLIN per pound, dispersed on Schenley's feed nutrient, CARIMIN.

Schenley's WALLOP is extremely important in any diet for poultry. WALLOP contains 25% choline chloride carried on Carimin, Schenley's free-flowing grain product carrier. Choline is necessary for healthy development, maximum growth, and the prevention of slipped tendon in poultry.

Schenley's JAB is a powerful antibiotic, retaining potency for long periods in pellet or powder form. JAB contains 4 grams of PROCAINE PENICILLIN per pound, dispersed on CARIMIN, a free-flowing grain product carrier. Growth response in chicks and hogs has been known to reach an average of 20% even when as little as 2 grams per ton was used.



SCHENLEY DISTILLERS, INC.

FARM FEED DIVISION

26 East 6th Street

MAin 3170 Cincinnati 2, Ohio

Clip This Ad—Mail Today

FOR THE NEW 5TH EDITION

ALFALFA MEAL RATE BOOK

Containing—All Freight Rates from All Western Origins to All Arrival Points—Valuable Rate Information for Any Carlot Buyer or Seller of Alfalfa Products.

TO **ACME TRAFFIC SERVICE**

316 Board of Trade Bldg., Kansas City, Mo.

I want to buy..... copies of the Alfalfa Meal Rate Book. Please send me details of purchase.

(Signed) .....

Company .....

Address .....

shellbuilder

PURE CRUSHED REEF OYSTER SHELL

it's naturally better

SHELLBUILDER COMPANY

MELROSE BUILDING • HOUSTON, TEXAS

The Feed Store That Went the Limit with Side Lines

IF YOU HAVE BUNIONS DON'T KICK! UNTIL YOU USE BUNION CURE
BLINK SHAVING SOAP
THE FACE THAT AUNCHED A THOUSAND LATHERS
EVERY WEEK! AT UNTIL FURTHER NOTICE
FREE
A HORSE AND BUGGY WILL BE GIVEN AWAY
SAY, YOU, WHERE DO I FIND THE FEED DEPARTMENT?
LAST AISLE TO THE REAR, MY GOOD MAN
NUT SUNDAE
LISTERINE
TOOTHPASTE
RAZOR BLADES
HIP BOOTS, HIGH ONES, FOR FISHIN', I MEAN
WE'VE JUST ORDERED SOME MORE SOON
OH YES
WILL IT WASH?
FARMER
FEEDSTORE FLOORWALKER (NOT YET - BUT SOON!)

THEY SOLD FEED, TOO—In some cases, feed dealers have been advised to take on more sidelines to broaden their operations. In other cases, it has been argued that too many sidelines have cut into efficient and profitable feed merchandising. At any rate, sidelines have been a problem, and they were a problem back in 1932, too. This is indicated in the above cartoon, which was reproduced from the Dec. 10, 1932, issue of Feedstuffs.

Hey, Mr. Dealer!

Barton

Is Bustin' Out with The Biggest Stock Salt Campaign in Its History!

Bi-Monthly Insertions of These Terrific Testimonial Ads

in a Widely Expanded List of Publications:

The Dakota Farmer—104,316 Readers.
So. Dakota Stock-Grower—4,500 Readers.
The Nebraska Farmer—120,217 Readers.
The Nebraska Cattleman—6,000 Readers.
The Kansas Farmer—114,671 Readers.
The Kansas Stockman—8,500 Readers.
The Farmer-Stockman (Oklahoma)—165,708 Readers.
The New Mexico Stockman—17,662 Readers.
The Colorado Rancher—43,769 Readers.
Western Farm Life—35,000 Readers.
Daily Drovers Telegram—20,091 Readers.
Daily Journal-Stockman—19,987 Readers.

More Customers, Increased Sales, BIGGER & BETTER PROFITS for YOU!

STOCK and SELL

Barton SALT and Mineral Products

Order an ample supply TODAY!

"We can see an improvement in our cattle"

T O RANCH CO.
...Now for over two years we have bought (Barton) blocks by the carload, using no other kind of salt...
..We can see an improvement in our cattle since using these blocks...

For Better
Beef Cattle
Dairy Cattle
Hogs
Sheep
Horses

Start Feeding One of These Profit-Making Products TODAY...

Barton
Exclusive Formula
CAL-PHOSPHOR BRAND SALT & MINERALS and TRACE MINERAL SALT

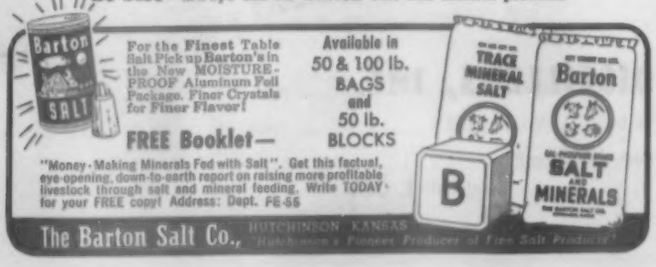
LOW-COST "Profit Insurance" for All Your Livestock!

TO Ranch breeding produced a "clean sweep" of champions at the 1954 American Royal. TO fed Barton "exclusive formula" Salt in 1941 when this letter was written, and still feeds Barton in its new, improved, but still exclusive formula in 1955!

Salt alone is vital in the feeding of livestock. It aids digestion, results in better feed conversion, acts as a body regulator, and is fundamental to respiration and reproduction. BUT added minerals, though they cost less than a penny a pound more than ordinary salt, are worth their weight in gold and more in livestock feeding!

These minerals are essential to general health, sound bone structure, healthy blood, proper conversion of feed to pounds, and reproduction. They are needed throughout an animal's life but they are most important when you are trying to put on the extra pounds that command top market prices... boost milk production... or develop better herd replacements! Low-cost "profit insurance," to be sure!

Be Sure—always ask for **Barton** *salt and mineral products!*



For the Finest Table Salt Pick up Barton's in the New MOISTURE-PROOF Aluminum Foil Package. Finer Crystals for Finer Flavor!

FREE Booklet—

Available in 50 & 100 lb. BAGS and 50 lb. BLOCKS

"Money-Making Minerals Fed with Salt". Get this factual, eye-opening, down-to-earth report on raising more profitable livestock through salt and mineral feeding. Write TODAY for your FREE copy! Address: Dept. FS-55

The Barton Salt Co., HUTCHINSON, KANSAS

get more meat, milk and eggs.

This stranger in the midst of the mighty at first was viewed with uncertainty, but as he progressed, the industry leaders said, "This man talks sense. Who is he?"

The leaders—the Hal McGeorges, the Chick Philipps, the Doc Hawleys, the John DeHavens—turned to one another and said, "Who is this man? He seems to have what we want." He did have, and they took unto themselves none other than Walt Berger, who went on to Washington to devise the protein distribution plan of World War II.

With those comments, Jim McConnell allowed that the dynamic feed industry needed less history and more of the story that the Walt Bergers have to tell. The feed industry is a growth industry, Mr. McConnell asserts, and it belongs to the men of the industry on today's firing line.

Big Strides

With that introduction to the interview, Walt twirled the ever-present cigar and entered into things with a gusto, appropriate for one who currently may speak with full authority and knowledge of the big strides the industry has made from its big jumping off point during World War II, when it showed what a vital part it was in the job of producing food for America.

As everyone knows, Walt Berger is all feed industry. His background runs all the way back to the days of the depression when he peddled cod liver oil to poultrymen; his days with Ralston Purina; his own business experience as an ingredient processor. Subsequently came his recognition and promotion by the industry to formulate a wartime program which revealed to thousands of doubting Thomases the great benefits the feed industry offered to producers, while at the same time it made possible the maintenance of supplies of protective foods for the U.S.

armed forces, the domestic population and our allies.

Walt first took pains to praise and pay tribute to the major assistance he obtained from the industry advisory groups which came to Washington, some full- and some part-time, to aid in his task of effecting equitable distribution of protein supplies and maintenance of all-out production of needed foods. He recalled the aid of people like Harry Cowan, Ken Maltas, Bob Houghtlin, Bill Knapp and Joe Nellis, as they pitched in to fix monthly allocations of the scarce protein supplies. There also was the great help on difficult distribution problems that faced Mr. Berger when he was with the War Food Administration administering War Food Order 9. Without all of this help, Walt admits he would have been lost.

In that connection, he paused to pay a generous tribute to James W. Browning, who was considered Walt's right arm at WFA and who has been drawn back into the feed side of the present administration to steer feed management controls in sensible channels. Jim Browning is seen as one government official who took the pains to learn what the feed industry was all about when he was assigned a post with Walt Berger, and it is widely known that he has come through with the same sage judgment and advice for the feed industry.

At this point, Walt Berger branched into a cool appraisal of the feed industry, to which Jim McConnell nodded silent approval.

Solid Base

Mr. Berger sees the feed industry as the solid, firm base on which the healthy present diets of the American people have been maintained.

"I wish you would point out to the readers of Feedstuffs that the American feed industry is something more than a mere collection of manufacturing companies and dealers," Mr. Berger said. "It is a vast catalytic agent which has transformed the products of many industries into usable food products; it has made markets for waste products previously discarded; it has been the big package whereby new products have been made available to farm producers, improving the value of their end products and delivering them at lower prices to consumers.

"Not only those contributions, but more — the feed industry has given producers of corn a larger, more profitable market, and the same thing may be said for oats, barley and grain sorghums; for the industry has led the way to feed use of the sensational new products of the dynamic chemical industry which in turn make the basic farm feed ingredients more valuable feed products."

At this point, Jim McConnell intervened to cite an example—how the feed industry years ago introduced beet pulp to animal feeding, thereby converting a formerly wasted product into a product of value to the industry and feeder.

Mr. Berger went on to recall his first years in Washington as protein administrator of the War Food Administration.

Opposition to Overcome

It may be noted by this reporter that Mr. Berger's presence was under deep suspicion among many of the old AAA group who suspected that there was an entering wedge whereby the suspected feed industry would push into the hands of farmers unwanted manufactured feeds. Many in AAA wanted little, if any, part of Walter Berger and his fancy ideas of balanced nutrition.

However, Walter Berger did not fall into the trap of a family fight. He painstakingly held to his course, confident that facts would rise above the weeds of suspicion. And he was right, as events subsequently demonstrated.

Walt noted the give and take necessary to balance out badly needed supplies of protein ingredients in those dangerous war days when an Office of Price Administration had badly underestimated over-all supplies as it issued its ration stamps—and there was equally bad price fixing of basic feed ingredients which distorted distribution and put another unnecessary but important obstacle in his path.

To broaden the use of the short corn crop, the feed industry took hold of distillers grains and solubles, and by Mr. Berger's support of the distilling industry insistence on maintenance of operation, substantial quantities of those products were made available, and by this means the corn supply was stretched to fit the tightening situation. At that time distilling emphasis was on production of ethyl alcohol, in which much of the distilling by-product so valuable in the feed supply was being lost.

When Mr. Berger espoused support of continuation of whiskey distilling operations, many citizens and government officials shuddered and feared public reaction. But facing up for the feed industry, Walt Berger went to Louisville, Ky., to affirm his belief not only in the effectiveness of the distillers by-products, but in the ability of the feed industry to put those products to effective use. Later feed industry history proved the correctness of the Berger estimate of that situation.

At this point, Mr. Berger digressed with a chuckle to recall the OPA days when Colin S. Gordon, now executive vice president of the Quaker Oats Co., was chief of the grain, feed and seed division of OPA. Companions and confidants of those days, they were at opposite poles on the basis of administrative policies. But it must be suspected that they succeeded in making many administrative handicaps less objectionable through mutual understanding and confidence in each other.

Springboard

The fact that World War II was the springboard from which the feed

LA BUDDE
MILWAUKEE, WIS.
MALT SPROUTS
BREWERS GRAINS
DISTILLERS GRAINS
BEET PULP
AND 41 OTHER FEEDS

Science develops method of feeding for

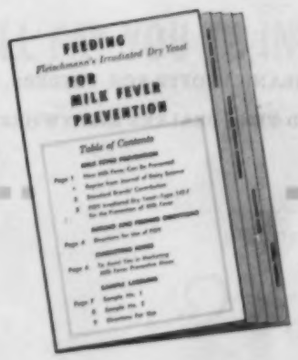
MILK FEVER PREVENTION

HEAVY VITAMIN D FEEDING

5 to 7 days before freshening

FOUND HIGHLY SUCCESSFUL

This is good news for your dairymen and it's good news for you. Many years of experiments at the Ohio Agricultural Experiment Station have shown that massive doses of Fleischmann's Irradiated Dry Yeast are highly successful in preventing milk fever. Yet this remarkably effective method is comparatively inexpensive.



What this discovery means to feed manufacturers...

You can now offer dairymen a Milk Fever Preventive Mix or FIDY Type 142-F as part of your complete dairy feeding program. The portfolio below places in your hands all the facts you need to know. Read the table of contents and send for free portfolio.

How big is the market...

We wish we could give you a definite figure on the incidence of milk fever. It varies from breed to breed and with the milk fever history of families within the breed. But milk fever is well known to dairymen as a disease that destroys dairy profits.

How FIDY will announce this important discovery...

When new advances are made in vitamin D nutrition, we owe it to keep you and your customers advised. How to feed for milk fever prevention will be told dairymen nationally. We will also tell dairymen that feed manufacturers will be able to supply them with preventive Vitamin D fortification. So be ready before this advertising campaign breaks.

Write for your free Milk Fever Portfolio today! Address Desk FS-55, STANDARD BRANDS INCORPORATED, *Agricultural Department*, 595 Madison Avenue, New York 22, N. Y.

Fleischmann's F·I·D·Y
IRRADIATED DRY YEAST
RICH IN VITAMIN D FOR FOUR FOOTED ANIMALS

FIDY
Distributors for Iowa, Nebraska, Colorado, Kansas and Missouri
Carroll Swanson Sales Co.
839 D. M. Bldg. Des Moines, Ia. Tel. 4-8177

industry moved into full maturity is probably not more effectively demonstrated than in the Berger example of the adoption and expansion of use of urea as a protein substitute.

It was at this point that it became evident to the feed industry that it was something more than a handmaiden to producers of meat, milk and eggs. That was the dawning of the realization that the industry was a dynamic institution transforming many other products into useful feeds which would multiply markets for foods and reduce production costs and provide for the farm producers of protective foods what gasoline had provided for the motor car industry.

Not only were the war years the period of demonstration of the efficiency of the feed industry and its products, but they were the point of departure and astonishing growth, Walt Berger points out.

About this time, he notes, the awakening chemical industry was developing its magic products, such as antibiotics, which accelerated growth, improved health and reduced production costs.

At that time, Mr. Berger says, if there had been no feed industry, it would have been necessary to make or invent one, for it was the feed industry whose products became a vehicle for these valuable products of modern chemistry.

"It was the national good fortune that the feed industry was staffed by imaginative leaders who had the foresight to adopt quickly these new ingredients which have played such an important part in promoting efficient animal and poultry production and at the same time held down costs to the consumer," Mr. Berger said. "And the end is not yet in sight. This year, for example, the industry moved into the use of hormones in feeds."

The past history of the feed industry is replete with examples of initiative and skill in meeting and overcoming obstacles.

And, looking ahead, these two industry and government leaders—Mr. McConnell and Mr. Berger—have the same confidence in the industry.

In conclusion, these two men were asked whether it would be fair to state that the feed industry was the one big basic industry on which the national food supply and the health of the nation rested.

Both nodded vigorous agreement, and the industry record in which they shared important roles is full confirmation of this evaluation of the industry's role.

PROGRESS

(Continued from page 40)

of directors. In his annual message to the membership, a recent chairman of the board observed: "Everyone on the board speaks his own mind. The actions of the board are impartial; no individual member, type of member or group of members is favored. In fact, all types and sizes of manufacturers are represented on a geographic basis with equal power of expression. I cannot visualize a more democratic board nor a more democratic association."

While the board of directors establishes policy, approves programs and recommends actions, the AFMA executive staff and the many regular and special committees selected from the membership at large are responsible for efficient execution of the programs.

Through its agricultural division, the association is constantly encouraging and initiating programs which promote prosperous livestock and poultry production. To achieve this end, emphasis is placed upon the improvement of animal and poultry nutrition and upon the improvement of feeding and management programs.

Eight years ago, a long range program was inaugurated and full association cooperation was pledged to leaders in education, agriculture and related fields since the general objectives of these groups were similar. Three approaches were taken by the association to enable rural America to learn more about the economics and efficiencies of manufactured feeds.

Timely nutrition studies in the interest of better feeding practices are released regularly to more than 40,000 educators and agricultural leaders. Expanded use of the association's visual aid program has brought the feed industry story to millions of Americans. And the channeling of sound information to farmers and feeders has been accomplished through excellent cooperation with the agricultural press and radio.

As an industry, feed manufacturers are not judged as much by the best bag of feed manufactured as they are by the poorest bag of feed sold. Therefore, the association has championed every cause which might improve the quality of the industry as a whole. In this realm, feed formulation, quality control and biological research have been given priority. The Nutrition Council has provided the medium through which this goal could be achieved.

Probably one of the finest examples of cooperation between agricultural colleges and the feed industry to appear on the horizon during the past two decades involves the work of the Feed Survey Committee. Each fall at the beginning of the new feed year, the AFMA brings this committee to Chicago to appraise the feed supply and need situation. The value of the committee's work is not limited to the feed industry. Nearly 25,000 educators, farm leaders and agricultural planners place considerable confidence in the findings of the committee. This activity exemplifies the improved working relationship which can result when two groups interested in the nation's welfare unite forces.

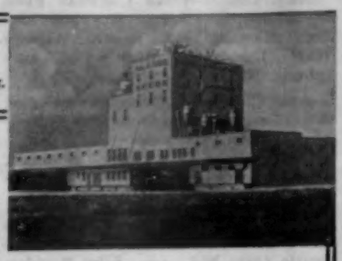
Activation of the AFMA feed control relations committee took place in 1909 which makes it the regular committee of longest standing. The relationship which exists between the AFMA and the Association of American Feed Control Officials is unique. From the date both were organized, there has been close harmony between the two groups. Each enjoys the confidence and respect of the other, and mutual efforts have done much to promote honest manufacture and intelligent regulation.

An important segment of the feed manufacturing industry is responsible

BRAN • SHORTS
MIDDLINGS
Sacked or Bulk—Any Shipment
DREYER COMMISSION CO.
MEMBERS
KANSAS CITY BOARD OF TRADE
ST. LOUIS MERCHANTS EXCHANGE
Board of Trade — Kansas City 6, Mo. — Phone BA 5462
Merchants Exchange — St. Louis 2, Mo. — Phone MA 1-2958
Statistical Charts Furnished Free. We Handle Futures Trades in Kansas City.

Pratt's
NOW PRATT IS FIRST!
WITH A TOTALLY NEW METHOD
OF FEED DISTRIBUTION
THE PRATT PLAN MEANS PROFIT FOR FEEDERS,
MANUFACTURERS AND FEED DEALERS EVERYWHERE
A symbol of quality
for 83 years

McCabe Grain Co., Ltd. Winnipeg, Canada



IBBERSON Has What You Need

You'll go far before you equal the advice you get from IBBERSON when building or remodeling Feed Mills, Elevators or Seed Plants. *Write us in confidence about your problems.*

T. E. IBBERSON COMPANY
Engineers and Contractors — Minneapolis, Minn.

for the production of small animal foods. Manufacturers in this field have been served by the AFMA dog food division which was organized in 1942.

Transit Problems

Transit problems, naturally, affect all manufacturers. As a service to the industry, the association's traffic committee composed of competent rate and transit specialists does a magnificent job in the common interest of all concerned. Numbered among the personnel of this committee are some of the nation's most outstanding traffic authorities whose counsel and service is available to the association without added cost. The knowledge these men bring to regular and special conferences and the conclusions they reach are pooled for the ultimate benefit of the AFMA membership.

Most recently, the association has become aware of the vast opportunity to provide a much needed service in the area of purchasing. As a result, a committee of purchasing agents has been activated for the purpose of helping effect uniformity in purchasing procedure. This group already has developed an important relations program with all of the industries which serve the feed manufacturing industry.

Without question, it can be said that the feed industry and the American Feed Manufacturers Assn. both have achieved maturity within the past decade. One of the major reasons for such achievement lies in the fact each has moved continuously in the direction of service.

When you come to think of it, a trade association is one of the wonders of modern business. Members are competitors, yet they cooperate. Company business normally isn't public information, yet the exchange of ideas and information is one of an association's prime functions. Members with different temperaments, varying abilities, conflicting viewpoints have joined together to gain benefits for themselves, their companies and their association.

To be successful, a trade association must be useful. And to be useful, it must have a vigorous, alert and cooperative membership. The AFMA believes free enterprise must continue to grow. Therefore, it goes without saying, the AFMA must continue to grow in size, strength and influence. Under our present trend of increasing problems and the ever-increasing strength of counter groups, it is unthinkable to consider that the 3½ billion feed industry should not exert its combined efforts to maintain its position and the benefits its own organization can provide.

IF YOU ARE A MANUFACTURER WITH FACILITIES TO PRODUCE

25,000 TONS OF FINISHED FEED PER YEAR

. . . IT WILL PAY YOU TO INVESTIGATE

WRITE OR WIRE...

R. H. Shaaman

President, Pratt Food Company

Hammond, Indiana

CONVENTION CALENDAR

May 23—Des Moines Feed & Grain Club Field Day; Des Moines Golf and Country Club; chmn., Dean Foster, 1901 E. Euclid Ave., Des Moines 13, Iowa.

May 25-27—American Feed Manufacturers Assn.; Morrison Hotel, Chicago; sec., W. T. Diamond, 53 W. Jackson Blvd., Chicago 4, Ill.

June 5-7—Indiana Grain and Feed Dealers Assn., Inc.; French Lick, Ind.; sec., Fred K. Sale, 600 Board of Trade Bldg., Indianapolis 4.

June 5-7—Georgia Feed & Poultry Conference; Dinkler Plaza Hotel, Atlanta, Ga.; sec., Will L. Kinard, 308 William-Oliver Bldg., Atlanta 3, Ga.

June 6-7 — Central Retail Feed Assn., Inc.; Hotel Schroeder, Milwaukee; sec., Eldon H. Roesler, 1712 West St. Paul Ave., Milwaukee 3, Wis.

June 12-15—Canadian Feed Manufacturers Assn., Champlain Convention; Chateau Frontenac, Quebec, Can.; J. St. Denis, sec., Room 206, 20 Grey Nun St., Montreal, Can.

June 13—Northwest Feed Manufacturers Assn. golf outing; Minneapolis Golf Club; chmn., Sheldon Gordinier, Box 162 Commerce Station, Minneapolis, Minn., or E. R. Beck, 3800 Washington Ave. N., Minneapolis 12, Minn.

June 17—Pacific Northwest Grain Dealers Assn., Inc.; Davenport Hotel, Spokane, Wash.; sec., Pete Stallcop, 418 Peyton Bldg., Spokane 1, Wash.

June 20-24 — Grain Elevator and Processing Superintendents; Winnipeg, Man., Can.; sec., Dean M. Clark, Board of Trade Bldg., Chicago.

June 22—Ohio Experiment Station Turkey Day; Ohio Agricultural Experiment Station, Wooster; sec., A. R. Winter, Ohio State College of Agriculture, Wooster, Ohio.

June 22-24—Association of Southern Feed and Fertilizer Control Officials; Jung Hotel, New Orleans, La.; sec., Bruce Poundstone, Agricultural Experiment Station, Lexington 29, Ky.

June 22-24—Western Poultry Congress; San Diego, Cal.; Address P.O. Box 534, Palo Alto, Cal.

June 23-25—Grain Processing Ma-

chinery Mfrs. Assn.; Northernaire, Three Lakes, Wis.; sec., Raymond J. Walter, 511 Fifth Ave., New York 17, N.Y.

June 27-28—Eastern Federation of Feed Merchants, Inc.; Hotel Commodore, New York, N.Y.; sec., Austin W. Carpenter, Sherburne, N.Y.

July 10-12—Louisiana Poultry Improvement Assn.; Bentley Hotel, Alexandria; sec., Clyde Ingram, Louisiana State University, Baton Rouge, La.

July 15-16—Kansas Seed Dealers Assn. mid-year convention; Hotel Broadview, Wichita; sec., O. E. Case, 901 Wiley Bldg., Hutchinson, Kansas.

July 17-18—New Mexico Grain & Feed Dealers Assn. midyear meeting; Murray Hotel, Silver City, N.M.; sec., H. B. Hening, Box 616, Albuquerque, N.M.

July 19-22 — American Poultry & Hatchery Federation; Auditorium, St. Louis, Mo.; sec., Don M. Turnbull, 521 E. 63rd St., Kansas City 10, Mo.

Aug. 15-16 — Nutrition School for Feed Men; University of Wisconsin, Madison; chmn., G. Bohstedt, Department of Animal Husbandry, U. of Wis., Madison 6, Wis.

Aug. 22-23 — Kentucky Feed & Grain Assn.; Seelbach Hotel, Louisville; sec., William C. Willock, P.O. Box 1914, Louisville, Ky.

Aug. 26-27—North Carolina Feed Manufacturers Assn.; Bayview Manor, Blowing Rock; sec., William Hoyle, Laurinburg Milling Co., Laurinburg, N.C.

Aug. 29-31—Joint annual meetings, American Soybean Assn. and National Soybean Processors Assn.; Netherlands-Plaza Hotel, Cincinnati, Ohio; sec., George M. Strayer, American Soybean Assn., Hudson, Iowa.

Sept. 11-13—Grain and Feed Dealers National Assn.; Haddon Hall, Atlantic City, N.J.; sec., John Bowden, 100 Merchants Exchange Bldg., St. Louis 2, Mo.

Sept. 12-13 — Minnesota Animal Nutrition Short Course; University of Minn. Farm Campus, St. Paul; Dir., J. O. Christianson, Institute of Agriculture, Univ. of Minn., St. Paul 1, Minn.

Sept. 14-16—Tenth Amburgo Nutrition and Merchandising School, Bellevue-Stratford Hotel, Philadelphia, Pa.; Miss S. Raburn, The Amburgo Co., Inc., 1315 Walnut St., Philadelphia 7, Pa.

Sept. 21-22 — National Renderers Assn., Seventh Regional Area; Radisson Hotel, Minneapolis, Minn.; sec., H. A. Yaffee, Box 26, Stockyards Station, Sioux City, Iowa.

Sept. 22-23 — National Mineral Feeds Assn.; Bismarck Hotel, Chicago; sec., Peter W. Janss, 212 Equitable Bldg., Des Moines, Iowa.

Sept. 29-30 — Arkansas Formula Feed Conference; Univ. of Ark., Fayetteville; sec., Dr. E. L. Stephenson, U. of Ark., Fayettesville, Ark.

Oct. 3-4 — Pennsylvania Millers & Feed Dealers Assn.; Nittany Lion Inn, State College, Pa., sec., Richard I. Ammon, P.O. Box 329, Ephrata, Pa.

Oct. 6-7—Texas Nutrition Conference; Texas A&M College, College Station, Texas; sec., J. R. Couch, Texas A&M, College Station, Texas.

Oct. 12—Virginia State Feed Assn.; Hotel Jefferson, Richmond; sec., J. Paul Williams, 615 E. Franklin St., Richmond 19, Va.

Oct. 12-13—Association of American Feed Control Officials; Shoreham Hotel, Washington, D.C.; sec., L. E. Bopst, Univ. of Maryland, College Park, Md.

Oct. 13-14—Virginia State Poultry Federation; Hotel Jefferson, Richmond; sec., J. Paul Williams, 615 E. Franklin St., Richmond 19, Va.

Oct. 27-28 — Oklahoma Formula Feed Conference; Oklahoma A&M College, Stillwater; Chmn., Dr. Rollin Thayer, Oklahoma Agricultural & Mechanical College, Stillwater, Okla.

Oct. 28—Illinois Sheep Production Day; University of Illinois, Urbana; Chmn., U. S. Garrigus, Dept. of Animal Science, U. of Ill., Urbana, Ill.

Nov. 3-4 — Cornell Nutrition Conference for feed manufacturers; Statler Hotel, Buffalo, N.Y.; Chmn., Prof. R. G. Warner, Stocking Hall, Cornell Univ., Ithaca, N.Y.

Nov. 6-8 — National Renderers Assn.; Bismarck Hotel, Chicago.; sec., John J. Hamel, Jr., 130 N. Wells St., Chicago 6, Ill.

Nov. 7-9—Midwest Feed Production School; Hotel President, Kansas City, Mo.; sec., Lloyd S. Larson, 20 West 9th St. Bldg., Kansas City, Mo.

Nov. 17-18—Florida Feed Dealers meeting and nutrition conference; University of Florida, Gainesville; sec., Julian C. Smith, c/o Flint River Mills, Tallahassee, Fla.

Nov. 17-18—Florida Nutrition Conference; University of Florida, Gainesville; Chmn., Dr. John P. Feaster, Univ. of Fla., Gainesville, Fla.

Dec. 8-9 — North Carolina Feed Manufacturers Assn. Nutrition Conference; College Union Bldg., N. C. State College, Raleigh; sec., William Hoyle, Laurinburg Milling Co., Laurenburg, N.C.

1956

Jan. 23-25 — Southeastern Poultry and Egg Assn.; Municipal Auditorium, Atlanta, Ga.; sec., J. Paul Williams, 615 E. Franklin St., Richmond, Va.

Jan. 26-28—American Dehydrators Assn.; Hotel del Coronado, Coronado, Cal.; Exec. V. P., Joseph Chrisman, Dwight Bldg., Kansas City, Mo.

Feb. 7-8—Utah Nutrition and Production Conference; Utah State Agricultural College, Logan; sec., Dr. Lawrence Morris, Animal Husbandry Dept., Brigham Young Univ., Provo, Utah.

March 15-16 — Oregon Feed and Seed Dealers Assn.; Multnomah Hotel, Portland; Sec., Leon Jackson, 809 Lewis Bldg., Portland 4, Ore.

April 12-14—California Hay, Grain & Feed Dealers Assn.; Ambassador Hotel, Los Angeles; Sec., John F. Gilmore, 1400 Tenth St., Sacramento 14, Cal.

FARMACEUTICALS . . .

Specifide's Word for Their

"Fine Chemicals for Fine Feeds"

USED THE WORLD OVER

CANADA · FRANCE · ITALY · ENGLAND · NORWAY · SWEDEN · GREECE
COLUMBIA · MEXICO · NICARAGUA · CUBA · PHILIPPINES
GREENLAND · ICELAND · AFRICA

MINNEAPOLIS BAG CLOSING MACHINES

- High Speed-Low Cost
- 110-220 Volt A.C. Motor
- Cast Aluminum Housing
- Easy to Operate
- Sew Paper, Cotton, Burlap

In plants in all parts of the world, versatile Minneapolis Sewing Machines are proving themselves favorites in all bag closing jobs—large and small. In your plant you'll find that efficient Minneapolis Machines will close quickly and securely any weight bag—paper, cotton, burlap—without adjusting. All Minneapolis Models use the standard two thread chain stitch . . . are simple to thread . . . come equipped with two spools of thread. Standard S.A.E. nuts, bolts and set screws are used throughout for easy replacement. High speed, heavy duty Minneapolis Sewing Machines are designed for long, trouble-free service . . . will increase your production and reduce your overhead.

Minneapolis Models

M-100 HEAVY DUTY SEWING HEAD

CV-100 MOTORIZED CONVEYOR

DB-100 MANUAL DOLLY

J-175 PORTABLE SUSPENSION

10-DAY FREE TRIAL

MINNEAPOLIS SEWING MACHINE CO.
4865 OSSEO ROAD
MINNEAPOLIS 12, MINN.

MINNEAPOLIS SEWING MACHINE CO. G-55
4865 Osseo Road Minneapolis 12, Minn.

Please send free literature to

COMPANY .....

STREET .....

CITY ..... STATE.....

NAME .....

KAFIR & MILO

Largest Dealers in Southwest

MID-CONTINENT GRAIN CO.
Kansas City, Mo.

4-TIFICATION, NATURALLY, IS FUNDAMENTAL

Throughout the country, feed manufacturers and dealers are finding that the way to get the best out of the best in natural-source fortification — Borden's — is through the Borden Four-Point Program.

It takes the right start in the research laboratory to provide the right start at the feeding trough, and the Borden Four-Point Program is comprehensive at every step along the way:

1 **Borden's natural-source fortifiers from milk, fish and fermentation products are unusually rich in known and unidentified growth factors as a result of Borden basic research. Continuing research, backed by thorough field testing, assures manufacturers the advantages of all the latest nutritional developments.**

2 **Borden Technical Service will assist you in any way in formulation and production, in your plant or our laboratory. Whether through improved quality or reduced costs, the Borden technical facilities and staff will help make your feed the best and most profitable.**

3 **You can add a complete department to your business and increase your volume with effective, professional advertising and merchandising dealer aids. Leaflets, pennants, posters, seals, radio and TV spot announcements, ad mats — all prepared by specialists to sell more of your feed, are available.**

4 **Finally, farmer educational materials will help whip your greatest competitor—poor management. Poultry, hog and dairy strip films, entertaining as well as educational, have been prepared by Borden. YOUR name will be inserted in specially recorded narrations for each film, so that YOU can talk to the farmer and tell him about YOUR feed.**

Take advantage of this opportunity to build a complete feeding program, *naturally* the best . . . and the most profitable. Fill in and mail the coupon today.

THE *Borden* COMPANY
FEED SUPPLEMENTS DEPARTMENT
350 MADISON AVENUE • NEW YORK 17, N. Y.

Borden IS BASIC IN FOOD AND FEED RESEARCH

THE BORDEN COMPANY
FEED SUPPLEMENTS DEPARTMENT
350 Madison Avenue New York 17, N. Y.

Gentlemen: Please send us complete information about your NEW four-point program.

Name.....
Firm.....
Address.....
Town.....

QUARTER CENTURY IN THE FEED BUSINESS

(Continued from page 32)

S. Larson of Hubbard Milling, Mankato, Minn., opened an advertising agency. . . . Dr. Clifford D. Carpenter of the University of Kentucky joined Allied Mills. . . . John Vanier, Salina, Kansas, and his associates acquired control of Gooch Milling, Lincoln, Neb. . . . J. C. Curry resigned as general manager of the feed and grain department of Albert Dickinson Co., Chicago, and joined his father's firm, A. C. Curry. . . . E. C. Kessler was named president of Ames-Burns Feed Co., Jamestown, N.Y.

James E. Larrowe resigned as president of Larrowe Milling and Searle Mowat became president. . . . Dr. R. T. Parkhurst left NOPCO to join the Massachusetts State College of Agriculture staff. . . . D. W. McMillen, president of Central Soya Co. and McMillen Feed Mills was elected chairman of both. Roy Hall became president of both firms, and D. W. McMillen, Jr., was elected executive vice president.

Deaths: John W. Barwell, chairman of Blatchford Calf Meal Co.; George W. Hosie, Ames-Burns Co., Jamestown, N.Y.; Sherman T. Edwards, Chicago, industry pioneer; Judson S. Bemis, Bemis Bro. Bag Co.; Theodore Martin, Atlanta broker; Fred Uhlmann, Chicago grain man; Frank J. Ludwig, Chas. M. Cox Co., Boston; Roy Adams, Portland.

v v

1939

War Raises Shadow of Things to Come

Feed business in 1939 ran along at about the same volume as it had in the previous couple of years of the late 1930's, but it was a year which actually marked the beginning of the war-time expanison of the industry. War broke out in Europe late in the year. At the same time, domestic business and farm conditions were picking up, and there were indications of greater farm and feed business to come.

Farm income for 1939 was down a little from the previous year, but conditions were improving in the later months. The war outbreak brought an immediate reaction in the feed market, with sharply advancing prices and the most confusion in many years. Markets soon became stable again, and buying enthusiasm dwindled while people awaited developments. There was no immediate change in supply prospects.

Government farm support measures continued in 1939, and record funds were appropriated for benefit payments, removal of surpluses, etc. There also was talk of two-price plans and efforts to reinstate a processing tax to finance the program. Meanwhile, livestock and poultry operations were expanding, but there were indications that conditions would still improve with better consumer demand.

Commenting editorially on 1937 Census figures on feed manufacturers and on the extent of by-product feed and wholesale and retail operations, Feedstuffs said that "we are indisputably a gigantic business." (Formula feed output in 1937 was 10.7 million tons, compared with 1954's 35 million.) The industry is young, but it is big for its age, the editorial said.

A sign of industry progress was increasing talk about ingredient quality and selling of feeding results rather than just mixed feeds.

A RECORD CROWD attended the AFMA meeting at Saranac Lake, N.Y. . . . Increasing interest in nutrition and feed quality was evident in the program. Membership was up to 250, compared with 113 in 1933 when management of the association was largely turned over to a younger group. A. F. Seay, Purina, was re-elected chairman. . . . The Southern Feed Control Officials Assn. held its first meeting. . . . War and its effects on the grain trade were the big topic at the Grain & Feed Dealers National. Discussions also covered trade rules, credit, honor rolls and "white lists," itinerant truckers. . . . The Southern Mixed Feed Manufacturers Assn. took note of the expanding livestock industry in the South. . . . The national control group stressed the need for cooperation with the trade. Ralph Field of AFMA complimented colleges but regretted that some had prejudices against feed manufacturers.

It was reported early in 1939 that the old "dust bowl" had shrunk to a sixth of its former size. Later in the year there were drouth conditions again in some areas, and drouth relief measures were taken. . . . Grasshopper infestations became heavy, and there was heavy buying of bran for bait. . . . It was predicted that inbreeding and crossing would "revolutionize the poultry industry." . . . Southern control officials urged more uniformity of regulations and rapped diversion of feed taxes. . . . There was talk about state "trade barriers." . . . The retail feed industry was alarmed by an REA announcement that it intended to help finance community processing centers, including feed mills. . . . National Feed Week was held to promote scientific feeding. . . . There was a tendency toward more use of high protein supplements, mostly in the grain belt. . . . The "beef type" turkey was growing in popularity. . . . Greater imports of Canadian millfeed were expected because of flour production for warring England. . . . Dollar wheat was welcomed again, less because of the price, than because of the fact that it was the result of free trading in comparatively free markets.

The turkey crop was a record 32 million, and laying flocks were being expanded markedly. . . The government bought butter and moved it into relief distribution. . . . Many states considered wage-hour laws to supplement federal laws. . . . A group of Mississippi college men said the feed industry helped farmers, that it was ahead of many colleges in research. . . . More laws were passed to curb itinerant truckers. . . . Dr. O. B. Kent, Quaker Oats, said efficiently raised broilers would soon compete as an every-day meat. . . . Grain men said government controls had put the trade near a crisis and that only an accident of nature or something else could remove surpluses. . . . Some states provided reporting systems for feed manufacturers. . . . Credit problems continued to plague feed men. . . . The minimum hourly wage in manufacturing went from 25¢ to 30¢.

NEW RICHMOND (Wis.) Roller Mills Co. changed its name to Doughboy Mills, Inc. . . . W. J. Small Co. announced an enlarging of its capacity. . . . Soybean processing oper-

SEASONED BUYERS AT YOUR SERVICE
IN DOMESTIC and FOREIGN MARKETS

An experienced, alert, and resourceful organization to maintain contact for you with all parts of the world for choice selections of

FEED INGREDIENTS

FISH MEAL

BEET PULP — BONEMEAL
VEGETABLE PROTEINS — BRAN & POLLARDS
ANIMAL PROTEINS — BREWERS GRAINS
DICALCIUM PHOSPHATE

also FERTILIZERS AND FERTILIZER MATERIALS, MINERAL ORES

PHONE: LOcust 4-5600 . . . TELETYPE: PH109 . . . CABLE ADDRESS: "WOODWARD"

ESTABLISHED 1873
Woodward & Dickerson Inc.

1400 SOUTH PENN SQUARE, PHILADELPHIA 2, PA., U.S.A.

BRANCHES IN MADRID, MANILA, TOKYO, SEOUL, WASHINGTON, D.C.

ations were really picking up, and many companies announced new plants or expansions . . . Southern States Cooperative built a new feed plant at Statesville, N.C. . . . Land O' Lakes Creameries, Minneapolis, went into the feed manufacturing business. . . . Quaker Oats earnings were the largest since 1931. . . . Max Nowak reentered the feed manufacturing field, operating the Hammond (Ind.) Milling Corp. He had sold his plant in 1938 to Vitality Mills announcing he was retiring because of excessive taxes. . . . Central Soya Co. built a new soy and feed plant at Gibson City, Ill. . . . Allied Mills earnings increased greatly. . . . Waterloo (Iowa) Mills installed a feed unit, with M. F. Wells in charge. . . . Fernando Valley Milling & Supply Co. opened a new feed plant at Van Nuys, Cal., replacing a mill destroyed previously by fire.

Les M. Brown was named to head the agricultural department of NOPCO; Ray Ewing was appointed sales manager. . . . J. C. Plonsky joined E. R. Squibb & Sons. . . W. S. Young, Kasco Mills, was reelected president of the Northeastern Feed Manufacturers Assn. . . . Floyd Oles resigned as manager of the Pacific Northwest Feed Assn. to devote more time to other duties; John G. Wilson succeeded him. . . . H. D. Egly, previously with Central Soya, joined A. E. Staley. . . . H. R. Harmer became president of Hubbard Milling. . . . J. W. Keller became president of Pratt Food Co. . . . Dr. W. C. Tully joined Nutrena Mills. . . . Dr. H. J. Almquist, University of California, won a Borden award. . . . Roy Hall retired as president of Central Sugar Co. to devote full time to Central Soya and McMillen Feed Mills; Harold W. McMillen became president of Central Sugar. . . . Ron Kennedy joined the Grain & Feed Dealers National Assn. as assistant secretary.

Deaths: George M. Palmer, president, Hubbard Milling Co., Mankato Minn.; Joseph S. Keller, Pratt Food Co.; R. P. Walden, Corn Products Sales Co.; Frederick H. Deibel, Elam Grain Co., St. Louis; G. D. Adams, Chase Bag; E. P. Wilbur, Wilbur-Ellis Co.; E. I. Bailey, Cleveland grain and feed man.

v v

1940

Industry Moves Closer To Wartime Type Basis

The feed industry in 1940 moved closer to a wartime type business. The war in Europe spread, and by the end of the year, Feedstuffs pointed out that "the whole picture of business organization and methods is undergoing a change which may be tremendous before it is finished." For several years government regulation of business had been increasing, but there was much more to come, particularly if we became involved in the war.

During a good part of the year, agriculture and the feed business were hampered some by unfavorable price relationships between feed and some commodities. Later defense program industrial activity helped boost consumer incomes, and farm income was improving. Unfavorable price ratios had resulted in cutbacks in pig crops and poultry raising, and this indicated higher prices for farm products.

Hitler's invasion in western Europe brought a terrific reaction in the markets in May. With the threat of losing important export markets for grains because of the extension of the war, prices tumbled. In fact, the panic brought a drop of 30¢ in wheat prices in two days. Because of the emergency, grain exchanges complied with a government request to peg prices and set minimum levels as a temporary measure.

Feed ingredients other than grains also declined in price with the bottling up of the whole of continental Europe. Also, South American feedstuffs exports to Europe were diverted to the U.S., lowering prices. Later

SAVE BY HAULING BOTH BULK AND SACKED FEED ON SAME TRIP

WRITE TODAY for complete information about a Simonsen Unloader to fit any truck with a standard grain or stock box.

SIMONSEN MFG., Dept. F. S., QUIMBY, IOWA

SINASON - TEICHER INTER AMERICAN GRAIN CORP.

EXPORTERS

GRAIN
FEEDS
FLOUR

Wire Us Your Offerings

Telephone HAnover 2-8690

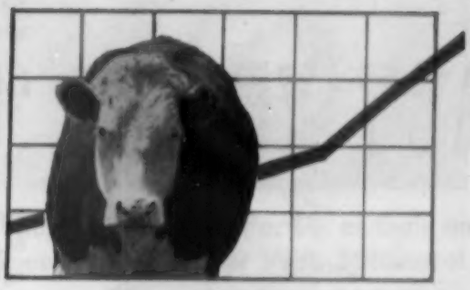
Teletype NY 1-3288

New York Office—50 Broadway

Stilbosol AT WORK FATTENING SALES CURVES . . .

Rapid switch to 'Stilbosol' supplements

Total beef feed sales increasing



If you market a beef fattening supplement containing 'Stilbosol,' you may have noted two changes . . . and are watching them with interest.

1. There's a rapid switch from regular beef fattening supplements to the 'Stilbosol'-fortified supplements. Manufacturers are reporting from one-third to two-thirds of their beef supplement tonnage in the 'Stilbosol'-fortified category. Those who've offered this product longest, generally have the highest percentage of their sales made up of supplements containing 'Stilbosol.'

2. Total sales of beef fattening supplements are increasing. It's too soon to measure how much on an industry-wide basis. But the strong trend in this direction has begun. Manufacturers with 'Stilbosol' in their rations can best measure this for themselves.

'Stilbosol' is already building important advantages. It can help you increase your share of the beef feed business.

It can do so because you are offering your customers both a gain-booster and a manufacturing service . . . tools they need and want to help build profit margins in beef feeding operations.

If you are not yet using 'Stilbosol' in your beef fattening rations, we invite your inquiries. We would like to help place this sales-building additive in your brand of beef fattening ration.

'Stilbosol' is Eli Lilly and Company's trademark for Diethylstilbestrol Premix, Lilly. 'Stilbosol' is compounded under license from the Iowa State College Research Foundation, Inc.

Stilbosol

(Diethylstilbestrol Premix, Lilly)

Lilly

ELI LILLY AND COMPANY, AGRICULTURAL PRODUCTS DIVISION, INDIANAPOLIS 6, INDIANA

prices picked up with hot, dry weather and then winter conditions and better demand for farm products.

As the year ended, note was taken of fewer chickens and pigs and the marked rise in industrial activity. Also, there was a potential expanded demand for food to help feed people overseas. Higher prices were developing or predicted for meat, milk and eggs, and a substantial gain in feed tonnage was foreseen. In fact, the 1940 tonnage climbed to 12.3 million tons.

In the meantime, the extensive government farm programs continued in 1940, with crop loans and purchasing of eggs, turkeys and other commodities.

While business wasn't always good, there were indications that the feed industry was in a real era of expansion. Machinery sales indicated this was particularly true among crossroads mixers.

OTHER DEVELOPMENTS: Use of soybean meal in feeds showed a marked increase. . . . Feedstuffs noted that "one of the quick changes in the feed business that may still have many feed manufacturers bobbing in the saddle is the switch to trucks. Feed millers everywhere are operating fleets of trucks." A uniform grain storage contract was approved. . . . More laws were passed to restrict itinerant truckers. . . . A trend toward fewer but larger, more efficient hatcheries was noted. . . .

The problem of overcoming consumer thinking of turkeys as a once-a-year food continued, but turkeys were becoming a much bigger market for feed. Production was up to 32 million birds in 1938. . . . The basic work week under federal law dropped to 40 hours. . . . Turkey losses in an Armistice Day storm in the Upper Midwest were estimated as high as more than 2 million. . . . Nutritionists were stressing ingredient quality, showing how results with feeds of the same formula could vary. . . . AFMA took over sponsorship of National Feed Week. . . . A suit was filed to have milling in transit privileges restored. . . .

A soybean meal futures market opened at Memphis. . . . Feed mill workers at some plants got contracts with cost of living clauses and a war clause guaranteeing an employee his former job if he went into service. . . . The National Poultry & Egg Board was organized to promote poultry and egg consumption. . . . There was a lot of confusion over application of the federal wage-hour law. For a while it was thought retailers were covered, but that was ruled out.

EVEN THOUGH the war situation and upset market conditions caused cancellation of about 75 reservations, there was a record attendance of more than 400 at the AFMA convention at French Lick. J. B. DeHaven of Allied Mills was elected chairman. The AFMA named a committee to establish and maintain contacts between feed manufacturers and colleges. . . . The Southern Mixed Feed Manufacturers Assn. convention was held in conjunction with a nutrition school at the University of Georgia. A. T. Pennington, Allied Mills, Atlanta, was elected president. . . . The Association of American Feed Control Officials continued to work for feed law uniformity. The problem of how to regulate custom mixing was mentioned.

The government's role in the grain business was condemned at the Grain & Feed Dealers National Assn. convention at Louisville.

The W. J. Small Co. enlarged its operations more. . . . Ralston Purina announced new mills at Pocatello, Idaho, and Lubbock, Texas. . . . Pillsbury Flour Mills Co. bought the Globe Grain & Milling Co. of California, including five feed plants. . . . Standard Milling Co., Atlanta, rebuilt after a fire. . . . Merrimack Farmers Exchange, Concord, N.H., announced a new feed plant.

HUGH BUTLER, Omaha grain man, was elected a U.S. Senator. . . . John H. Barton resigned as president of NOPCO and joined Eastern Semolina Mills, New York. Charles P. Gulick was elected president and continued as board chairman. . . . Jeff D. Brown, Springdale, Ark., hatchery and feed man, was cited as a "broiler king" in a Feedstuffs story. . . . E. E. Rocquemore joined Acme Feeds, Inc., Forest Park, Ill., after resigning as general sales manager of Arcady Farms Milling Co. . . . Ron Kennedy resigned from his secretary position with the Western Grain & Feed Assn. and the Grain & Feed Dealers National; he joined the Iowa Chain Stores Council. . . . Emil Blacky resigned as editor of Feed Bag to join an advertising agency.

T. G. Wilkinson, previously with Albert Dickinson Co. and Kraft Cheese, was named manager of the new animal feed department of the special products division of Borden Co. . . . J. C. Plonsky returned to the employ of the Iodine Educational Bureau as representative on the West Coast. . . . E. J. Koehnlein, Allied Mills, Buffalo, was elected president of the Northeastern Feed Manufacturers Assn. . . . Dr. W. C. Tully, previously with Nutrena Mills, Inc., joined Colorado Milling & Elevator Co. . . . R. F. Cunningham, New York, formed R. F. Cunningham & Co., a division of States Grain Corp. . . . Roger P. Annan was named sec-

(Continued on page 152)

AND THEY THOUGHT IT WAS BAD THEN

From an editorial in the Feb. 26, 1938, issue of Feedstuffs: "When Max Nowak, president of the Nowak Milling Corp. at Hammond, Ind., announced his retirement from the feed manufacturing business last week, he received a great deal of publicity in daily newspapers throughout the United States because he gave as one of the reasons for his retirement the fact that he was "sick and tired of taxes."

"With a business volume of $1,500,000 a year, he said that he had to pay $7,000 in salaries and fees during 1937 to clerks, auditors and attorneys to keep all of his tax reports straight. And then, of course, he had to pay the taxes, too.

"'I used to feel happy when I'd come down to work in the morning,' Mr. Nowak said. 'I'd whistle a tune and meet the day with some zest. Today there's nothing but grief.'

"Mr. Nowak has been in the feed business for 35 years, which rates him as a pioneer in this relatively new industry. His association with it has been successful and honorable. Those who know him well would hardly credit the nuisance of taxes as being his only reason for retirement, but probably most business men, big or little, who are forced to struggle with and pay for all of the reports and records currently required will view his exasperation with a great deal of sympathy."

25 YEARS represents a quarter-century milestone in any business endeavor. 25 years also seems so long ago in the history of our Formula feed world, especially in light of the many changes which have occurred. Yes,

LAST YEAR'S "UNKNOWNS"

are this year's valuable newer concepts of vitamins and other nutrients. 25 years ago, April 30, 1930, to be exact, a tiny spark ignited the kindling that later in 1937 burst into the flame which introduced Amburgo Feed Improvement Service to the industry. Amburgo recognized the need, took heed, sowed the seed . . . and Amburgo, now 18 years old, is grateful indeed.

GRATEFUL TO FEEDSTUFFS with whom we share 25 years of service . . . grateful for the part played by Feedstuffs in creating a progressive news media for the enlightenment of all engaged in the formula feed business. Grateful for the splendid cooperation given Amburgo by Feedstuffs . . . the publication of our writings, substantial publicity concerning Amburgo Annual Nutrition Schools and Amburgo's Demonstration Farm, Golden Acres . . . the listing and description of new Amburgo products. Grateful, too, for the honor bestowed upon us by Feedstuffs in designating Amburgo to report and cover two World Poultry Congresses, held in France and Scotland. As Feedstuffs enjoys continued progress, we, too, make progress our aim—

FEEDSTUFFS—we salute you, we thank you.

THE *Amburgo* CO., INC. • 1315-17 WALNUT STREET • PHILADELPHIA 7, PA.

It's Feedstuffs' Birthday . . . and Ours, Too!

Vitality Opens 24-Hour Truck Warehouse in Chicago!

24-Hour Service to Dealers at Truck Dock

CHICAGO—Vitality Mills, Inc., today announced the opening of a giant, new feed warehouse at 250 West 87th Street in Chicago, Ill. In addition to offering added pelleting and bulk facilities, this new warehouse is all set to give dealers immediate service, 24 hours a day!

Big Stock Available

Ray Ammon, President of Vitality Mills, stated that this highly efficient warehouse setup will make for faster, better service to feed dealers than was ever before possible! Special orders can be placed in advance and will be loaded on pallets and ready on the loading dock when your truck arrives. Of course, the complete line of Vitality Feeds will be stocked in large quantities to assure fast service on *all orders.*

Ray Ammon, President Vitality Mills, Inc.

Pictured above is Ray Ammon, who today announced 24-hour truck service at Vitality Mills new Chicago feed warehouse. Mr. Ammon is constantly working to improve Vitality's service to dealers . . . create new ideas that will pay off in better sales and profits for Vitality dealers everywhere.

L. W. "Dub" Laughlin
Manager, Dog Food Division

"Dub" Laughlin arrived at his present position after making an outstanding record as Division Manager in the Southwest for Vitality Dog Food. He knows dealers' problems through long experience, and today stated, "It's our policy to give Vitality Dealers the best service and the best dog foods that can be made . . . and our new truck warehouse will make service even better."

All you have to do is drive your truck to the dock, and the feed will be loaded onto your truck immediately. There will be no waiting . . . you'll be on your way again in only a few minutes!

Vitality Offers a "Speedy Beef Maker" for All Cattle Feeding

From calves and yearlings on high roughage to full feeding for market, there's a Vitality Feed to do the job with complete customer satisfaction. (Performance records under average, practical feed lot conditions prove the value of Vitality Feeds.) Time and again, feeders report Vitality pays off in healthy growing appetites and fast, low-cost gains—the kind of growth and weight that keeps customers buying from Vitality dealers over the years.

Available With Stilbestrol

Included in the Vitality line of cattle feeds is Speedy Beef Maker, available both with and without Stilbestrol. Vitality Speedy Beef Maker is a supplement that gives cattle extra iron to build rich, red blood . . . and properly stimulates rumen bug action with molasses ash, sugar, iron, nitrogen, trace minerals and all the important unknown factors in proper balance.

Vitality Speedy Beef Maker is available in 11%, 22% and 30% . . . may be fed with corn, alfalfa, roughage. However, best finish results are obtained if the feeder changes to full feed of shelled corn to finish cattle.

Stilbestrol Pays Big

Time after time, tests prove beef cattle make bigger gains with less feed when Stilbestrol is added to their ration. It's easy to see why so many feeders are switching to Vitality with Stilbestrol . . . and remember, Vitality was one of the first feed companies approved to mix this new, growth-boosting chemical. Try Vitality, and see the difference.

Feeder Reports 18½c Cost Per Lb. of Gain on Vitality Speedy Beef Maker With Stilbestrol

Donald Hunter of Pittsfield, Illinois, is typical of the feeders who are switching to Vitality Speedy Beef Maker. Here, in his own words, is the performance record he made with 27 head of cattle, marketed March 23, 1955:

"On November 27, we took 27 head of $18.25 cwt. feeders out of the stalk field and put them on a ration of half oats, half corn, wheat straw roughage and 1 lb. per head of Vitality Speedy Beef Maker. As soon as it was available, we switched to Speedy Beef Maker with Stilbestrol.

"The cattle were never off feed, their appetite was excellent and we had no scours. Hogs would have starved to death following this bunch, they assimilated their corn so well.

"On March 23, after 112 days on feed, their average weight had gone from 924 to 1,217 lbs. at a cost of 18.5 cents per pound of gain. They crossed the scales at St. Louis at 1,181 lbs. (about normal 3% shrinkage) and brought $23.25 cwt. With the low-cost gains and the upgrade in price we made very good money for short feed."

With results like that, you can be sure Hunter will be buying Vitality Speedy Beef Maker time after time—and you know that the word is going to get around in his area that Vitality Speedy Beef Maker really pays off. It's easy to see why every day, more and more Feed Dealers are starting to sell Vitality!

News! Vitality Offers Dealers New Selling Tool —Returnable Bags Save Feeders Up to $7.00 Ton!

Feed Dealers who handle Vitality Speedy Beef Maker now have an extra advantage to strengthen their sales story to feeders. By returning the burlap bags that Vitality is now shipped in, the feeder can get a cash refund or trade the bags for a Vitality Prize Check. When the feeder has saved enough Prize Checks, he can turn them in direct to Vitality Mills for valuable merchandise including everything from log chains to silver coffee sets.

New Bag Size

The new, returnable burlap bags are in a special 66 2/3 lb. size that makes for easier handling and storage with no breakage . . . calls for an even 30 bags to make a full ton.

Vitality Dealers report this new idea of cash or prize value, and special size bags, is proving to be a real sales booster for Vitality Feeds.

VITALITY MILLS, Inc.

250 West 87th Street

Chicago 20, Ill.

Worth Looking Into

New Products
New Services
New Literature

This reader service department announces the development of new and improved products, new services and new literature offered by manufacturers and suppliers. Claims made in this department are those of the firm concerned. Use the accompanying coupon to obtain the desired information.

No. 5188—Feed Nutrition Guide

Publication of the new Nopco Chemical Co. Nutrition Guide entitled "Taking the Guesswork Out of Feed Supplements," has been announced. The 18-page booklet is designed to acquaint the feed mixer and manufacturer with the firm's line of feed supplements for poultry and animals, including a vitamin-antibiotic-trace mineral supplement for poultry and swine feeds; vitamins made with the Micratized process; conventional dry vitamins; feeding oils; as well as miscellaneous vitamins, amino acids and antibiotics. The guide also has a special section containing data for the feed mixer, including a feed analysis chart which presents the nutritive contents of 64 common feed ingredients in an easy-to-read table. The Nutrition Guide is available free of charge. Check No. 5188 on the coupon and mail it to secure the guide.

No. 5189—Feed Sales Brochure

The Fine Chemicals Division, American Cyanamid Co., has available a color brochure entitled, "1955 Feed Sales Power" and which is devoted to "merchandising aids and advertising campaigns to promote feed sales." The brochure describes the various sales aids which are available from the company. They include posters, leaflets, booklets, technical bulletins, newspaper mats and motion picture films. Also outlined is the firm's advertising program for the year, using radio and magazines. To secure the brochure, available without charge, check No. 5189 on the coupon and mail it to this newspaper.

No. 5192—Farm Buildings Program

A kit of information on the company's farm buildings program has been prepared by Honeggers' & Co., Inc., for dealers interested in prefabricated housing and storage of livestock, crops and farm machinery. Included in the outfit are samples of mailers, literature and sales aids showing illustrations of the various pre-built buildings as well as detailed specifications. The buildings are offered to dealers with a "floor plan" financing arrangement. The pre-cut farm buildings include a poultry house, brooder house, range shelter, milk house, utility building, machine shed, garage, hog feeder and farm gates. For complete information check No. 5192 on the coupon and mail it to this newspaper.

No. 5190—Creep Feeder

A new creep feeder unit, named the Junior creep feeder, has been announced by the Brower Manufacturing Co. This unit is designed for use in the individual farrowing pens. It enables the pigs to have access to high potency starting rations at the earliest possible moment. The top flange on the feed trough is specially designed to help prevent feed waste. A steep pitched hopper and a slanting bottom force feed to front of trough without bridging. The feeder accommodates a litter of 10 pigs and holds 16 lb. of creep starter. Secure more complete details by checking No. 5190 on the coupon and mailing it.

No. 5196—Grain Handling

The Vac-U-Vator line of portable pneumatic grain handling and cleaning equipment, manufactured by Dunbar Kapple, Inc., has been augmented by the addition of the No. 980 large capacity model to the standard No. 900, and the smaller No. 670 models. New features of the model No. 980 include a rocking bolster under the frame to permit better roadability, more power and higher capacity. The photograph shows a carload of the new models leaving the company's plant. To secure more complete information check No. 5196 on the coupon and drop it in the mail.

No. 5191—Feed Supplement Test

The Coronet Phosphate Co. has announced the availability of reports outlining the results of a test made on 15 phosphorus supplements. The test was made on Beltsville white turkey poults and the results were measured in weights per poult, bone ash percentages and mortality by South Dakota agricultural experiment station researchers. The report is obtainable by checking No. 5191 on the coupon and mailing it to this newspaper.

No. 5193—Flowable Calcium Bulletin

The Columbia Quarry Co. has just published a booklet for feed manufacturers entitled "Flowable Calcium Products." The booklet describes the company's new feeding calcium "20-1" and describes its free-flowing properties. The brochure discusses these features from the standpoint of feed production advantages and also from the viewpoint of nutritional desirability. The company lists the advantages of faster unloading, less dust, quicker handling through weigh hoppers, uniform flow through feeders, easier bin clearance, less wear on pellet mills and easier blending—

Send me information on the items marked:

- ☐ No. 5188—Nutrition Guide
- ☐ No. 5189—Sales Brochure
- ☐ No. 5190—Creep Feeder
- ☐ No. 5191—Supplement Test
- ☐ No. 5192—Farm Buildings
- ☐ No. 5193—Flowable Calcium
- ☐ No. 5194—Mineral Premix
- ☐ No. 5195—Antibiotic
- ☐ No. 5196—Grain Handling

Others (list numbers) .....

NAME .....

COMPANY .....

ADDRESS .....

SLIP OUT—FOLD OVER ON THIS LINE—FASTEN (STAPLE, TAPE, GLUE)—MAIL

FIRST CLASS PERMIT No. 2 (Sec. 34.9, P. L. & R.) MINNEAPOLIS, MINN.

BUSINESS REPLY ENVELOPE
No postage stamp necessary if mailed in the United States

POSTAGE WILL BE PAID BY—

Feedstuffs

P. O. Box 67,

Reader Service Dept. Minneapolis 1, Minn.

Record Breaker?

It's Menhaden Time!

FISH MEAL
FISH SCRAP
FISH SOLUBLES . . .

NOW BOOKING NEW CROP

MIDWEST BYPRODUCTS CO.

Producers Agents, Board of Trade Bldg., Chicago, Ill.

MIDWEST BYPRODUCTS

Futures Attractively Priced — Guaranteed Delivery

CALL WEBSTER 9-4536

as factors in the production area. Analysis, particle size, texture and palatability are discussed from the nutritional angle. The booklet also describes the Columbia Quarry Co. business history and production facilities. To secure this bulletin check No. 5193 on the coupon, clip and mail it to Feedstuffs.

No. 5194—Mineral Premix

Two special "CCC" trace mineral premixes that are claimed to supply 5 milligrams of added zinc per pound of swine feed are now offered by the Calcium Carbonate Co. The products are useful in treating parakeratosis, a skin disease of swine resembling a bad case of mange. Further information is available by checking No. 5194 on the coupon and mailing it.

No. 5195—Antibiotic

A booklet on high-level feeding has been published by the animal nutrition department of Commercial Solvents Corp. Advantages to feed manufacturers and poultrymen with the use of the firm's product, Penline (reg.)-200, are outlined. The booklet explains how the product works on secondary invaders, stimulates appetites and assists recovery of sick birds. Copies of the booklets are available to readers on request. Check No. 5195 on the coupon and drop it in the mail.

Also Available

The following new products have been described in previous issues of Feedstuffs and information about them may still be obtained by jotting the appropriate number on the coupon and forwarding it to Feedstuffs.

No. 5163—Manually-operated gross bagger data sheet, Richardson Scale Co.

No. 5164—Bag opening device, Hudson Pulp & Paper Corp.

No. 5165 — Neoprene lining compound, Pennsylvania Salt Manufacturing Co.

No. 5166—Window streamer, Vitex Laboratories.

No. 5167 — Grain contamination viewer, Strong-Scott Manufacturing Co.

No. 5168—DPPD bulletin, Bowman Feed Products, Inc.

No. 5169—Yeast in livestock and poultry nutrition, Diamond V Mills, Inc., and Sioux Industries.

No. 5170 — Hammermills, Bryant Manufacturing Co.

No. 5171—Portable grain auger, Wetmore Pulverizer & Machinery Co.

No. 5172—Boxes, barrels, etc., for materials handling, Federal Fibre Corp.

No. 5173—Underground irrigation system, Prem Products Corp., subsidiary of Premier Peat Moss Corp.

No. 5174—Bag printing process, Fulton Bag & Cotton Mills.

No. 5175—Fly control products, Mutual Products Co.

No. 5176—Ketosis bulletin, E. I. du Pont de Nemours & Co., Inc.

No. 5177—Conveyors for bulk materials, Chantland Manufacturing Co.

No. 5178—Molasses mixer and process folder, Gruendler Crusher & Pulverizer Co.

No. 5179—Cotton bag fashions booklet, National Cotton Council.

No. 5180 — Pneumatic conveyor, Myers-Sherman Co.

No. 5181—Paper bag handling, Chantland Manufacturing Co.

No. 5182—Liquid grain protectant, Douglas Chemical Co.

No. 5183—Counter display stand, Dr. Hess & Clark, Inc.

No. 5184—Double faced pallet type fork truck, Colson Corp.

No. 5185—Mixing bulletin, National Machinery Co., Simpson Mix-Muller Division.

No. 5186—Phosphorus report, Lime Crest Research Laboratory (Coronet Phosphate Co.).

No. 5187—Oscillating conveyor, Gifford-Wood Co.

Scabies Eradication Plan Up for States' Approval

WASHINGTON — A proposed industry-state-federal program has been developed to attempt eradication of scabies in sheep. The program outlined has been sent to livestock officials of all states for review and comment.

The program will consist of an education campaign, a short course of training in the prevention of scabies and a continuing inspection program.

Scabies is caused by minute mites that feed on the skin and is highly contagious.

AT SHREVEPORT FIESTA

KANSAS CITY—Lloyd S. Larson, executive vice president, Midwest Feed Mfrs. Assn., Kansas City, and Mrs. Larson recently were guests of their son, Lt. Wm. L. Larson, public information officer, Barksdale Air Force Base, Shreveport, La. Lt. Larson was a member of the executive and parade committees of Shreveport's annual spring festival "Holiday in Dixie" and acted as liaison officer between the Air Force and the committee. Mr. and Mrs. Larson witnessed the night parade from the reviewing stand and were honored guests at the air show conducted at Barksdale. Mrs. Larson poured coffee at a special reception at the Officers Club, given by Maj. Gen. Frank A. Armstrong, Jr., commander, Second Air Force.

Cold Processed!
COD LIVER OIL

Silmo oils are produced in the U.S.A. by a unique cold process method from cod livers selected by our agents.

SILMO CHEMICAL CORP.
Vitamin Processors since 1921 Vineland, New Jersey

Advertisement

NEW PRODUCT NEWS

New STRONG-SCOTT Manlifts Afford Absolute Safety

Large Surface Main Brakes And Dual Safety Brakes Give Better Safety Protection Than Any Other Manlift On the Market

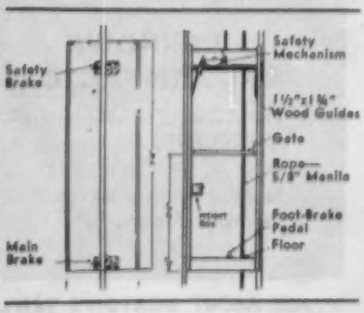
Because of recent improvements, Strong-Scott Manlifts boast qualities not found on other manlifts. Sturdy but lightweight construction of aluminum or wood enables Strong-Scott Manlifts to give better, longer and safer service. Two adjustable service brakes, dual safety brakes, square brake shaft and an automatic floor lock are a few of the many outstanding features of Strong-Scott Manlifts.

Strong-Scott Manlifts are always safe. The large surface main brakes hold the lift securely at any level, with or without a load, until the operator pushes down on the foot pedal to release these brakes. If the Manlift is at a floor level, he must also release the automatic floor lock, which engages the guides at predetermined levels. All Strong-Scott Manlifts are equipped with dual safety brakes which automatically engage if the counterweight cable should ever break. The square brake shafts fit into square holes in the braking mechanism which prevents slippage that sometimes occurs with round shafts and set screws.

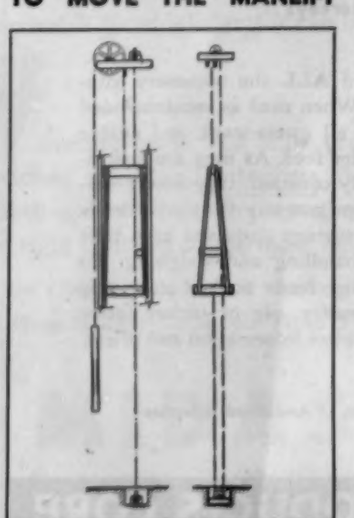
The Strong-Scott Aluminum Manlift is the first of its kind on the market. It's fireproof, non-corrosive and it's weatherproof, too. (This is especially important because outside grain storage is becoming more and more popular.)

The Strong-Scott Wooden Manlift operates in the same way and has many of the outstanding features of the Aluminum Lift. Illustrated in the left hand column is a typical Wooden Lift.

For further details write the Sales Department at Strong-Scott for a new product bulletin.



SPECIAL E-Z PULL ATTACHMENT ALLOWS OPERATOR TO MOVE THE MANLIFT WITH HALF THE EFFORT



Illustrated directly above is a front and side view of the Wooden Manlift showing E-Z Pull Attachment for easier operation.

In addition to the many safety features on both the aluminum and wooden Manlifts, the Strong-Scott Mfg. Co. has developed the special E-Z Pull Attachment. This feature allows the operator to move the car with about one-half the effort required to move lifts not equipped in this manner. The slight extra cost of the E-Z Pull Attachment is more than made up in the savings it affords in time and labor. Besides, it gives you the smoothest operating manlift available anywhere.

Another feature of the E-Z Pull Attachment is that it can be easily installed on most lifts already in service.

The
STRONG-SCOTT
MFG. CO.
451 Taft St. N.E.
Minneapolis 13, Minn.

QUARTER CENTURY IN THE FEED BUSINESS

(Continued from page 148)

retary-treasurer of the Grain & Feed Dealers National Assn.

Deaths: Warren A. Lamson, Lamson Bros. & Co., Chicago; A. E. Staley, Sr., A. E. Staley Mfg. Co., Decatur, Ill.; James C. Murray, Quaker Oats Co.; Charles Quinn, former secretary of the Grain & Feed Dealers National Assn.; Otto Bast, Minneapolis grain man; Virgil Ferneau, Ferneau Grain Co., Blanchester, Ohio; E. A. Witter, Kansas City broker; Henry R. Wilber, Wilber Feed & Grain Co., Jamestown, N.Y.; George N. Roberts, Bemis Bro. Bag Co.; Rex P. Walden, Corn Products Sales Co.

v v

1941

Huge Market Laid in Lap of Feed Industry

Feed men will remember 1941, of course, as the year of U.S. entrance into World War II, the start of many problems, and in some cases personal heartache. In addition, however, it was the year when the industry had a huge market laid right in its lap. Even before the U.S. entered the war, goals were set for huge increases in production of meat, milk and eggs to help feed England and its allies as well as provide good diets for the U.S. And it was recognized that better feeding provided much of the answer to increased production.

It was seen early in 1941 that there would be a better market for feed in the expanding economy, but then in April, in an unparalleled action, the government announced plans for placing "floors" under hog, butter, poultry and egg prices that would help stimulate production. The plan proposed through government buying with lend-lease funds and by other means to assure farmers profitable prices.

A little later, the green light was given to 85% of parity loan rates on corn and other crops. These pointed the way to further increases in feed prices, and many farm commodities made spectacular advances.

In September, the government announced 1942 goals calling for the largest production in history. It was announced that hogs, eggs, milk, cheese and chickens would be supported at 85% of parity, and actually government buying was expected to support prices at close to 100% of parity.

By September farm prices were up 43% from a year earlier. There were fluctuations during the year, of course, but feedstuffs prices also worked higher, and with the coming of actual war there were new sharp advances.

However, feed supplies were considered adequate, and price controls were not imposed immediately. Feedstuffs, noted, though, that government controls could be expected soon. "For the duration we are going to have a concentration of authority and a managed economy," an editorial pointed out.

Fred A. Thomas of General Mills, Inc., had been named earlier to take charge of feed price problems in OPA. He expressed hope that prices would adjust to levels where government intervention would not be necessary. If controls were necessary, he said, the industry would have a part in drafting them. The AFMA stressed limiting of forward sales to 60 days or less.

SIGNS OF THE TIMES: The emergency was bringing out new feedingstuff discoveries. For instance, feeding oils produced synthetically cost less than did cod liver oil before the war interrupted its production. . . . The decrease in hog production which started in 1940 was quickly checked in 1941, and production of other commodities also was gaining under favorable price relationships. . . . The government announced a plan to store reserves of feeds on farms in the northeastern states, under a financing arrangement with the G.L.F. Exchange. Independent feed men also sought a part in the program. . . . A Canadian embargo on millfeed shipments to the U.S. caused confusion and trade problems. . . . Feed dealers were urged to learn more about nutrition and do a better selling job in order to help meet the food production needs. . . . The feed industry was recognized as an essential defense industry and priorities were given for repairs and maintenance and later operating supplies. . . . Price ceilings were imposed on burlap bags. . . . In the latter part of the year many feed plants were running full time or were preparing to put on three shifts. . . . Feed control officials were reminded of ingredient

ARE YOU A SCREWBALL?

The March 23, 1940, issue of Feedstuffs told of the organization of the Screwball Clan, membership in which was made up from the group whose faces are a part of the scenery at most of the grain and feed conventions. "The idea," Feedstuffs said, "apparently had its beginning in what Ron Kennedy, secretary of the Western Grain & Feed Dealers Assn., sometimes refers to as his brain." He had observed in a bulletin that one of the pleasant things about attending feed meetings was the opportunity to renew acquaintanceships with the "screwball clan" which always seemed to gather at a convention. . . . Later the Screwball Clan was officially formed. "Because he talked the most," the story said, "Harry Cowan, Spencer Kellogg & Sons, Minneapolis, was named the first president and given the designation of 'Lighthouse.' Vice president is 'Pilot' Bill Westerman, Oyster Shell Products Co.; 'Killer Diller' Jack Sams, Blatchford Calf Meal Co., is secretary-treasurer, with no dues paid in. Because he has a camera, 'Lightning' Dave Steenbergh, the Feed Bag, was named official photographer."

Genuine Cane BLACKSTRAP MOLASSES
NORTH AMERICAN TRADING & IMPORT CO., INC.
LARGEST IMPORTERS OF BLACKSTRAP MOLASSES IN THE UNITED STATES
1429 WALNUT STREET • PHILADELPHIA 2, PA.

Completely . . .
FORTIFY!
with

Gorton's
Reg. U.S. Pat. Off.
BLENDS

GORTON'S BLENDS . . . are a complete feed fortification. The basic ingredients are red fish meal, condensed fish solubles, fish liver and glandular meal — all by-products of edible fish.

FISH FACTORS
•
QUALITY PROTEIN
•
UNKNOWN GROWTH FACTORS

Plus COMPLETE VITAMIN REQUIREMENTS OF Vitamins A, D, E, G, (Riboflavin), B-12 . . . together with other essential B-complex Factors.

AL-FISH • MAR-VI-TIC
for poultry for poultry and pigs
TURKEY BLEND
for turkeys

Gorton's Blends contain ALL the necessary vitamins and amino acids. When used as recommended these blends eliminate all guess-work and enable you to produce a superior feed. As they are quantitatively and qualitatively constant, they assure uniformity in mixing. When you buy Gorton's Blends you cut inventory and storage costs and save time and labor in mixing, handling and weighing. To produce superior quality feeds at less cost, use Gorton's Blends for poultry, pig or turkey feeds. Call or write us for complete information and prices.

ASK ABOUT GORTON'S TRIPLE-TESTED VITAMIN OILS WITH GUARANTEED POTENCIES.

Cooperating Members of Associated Industries

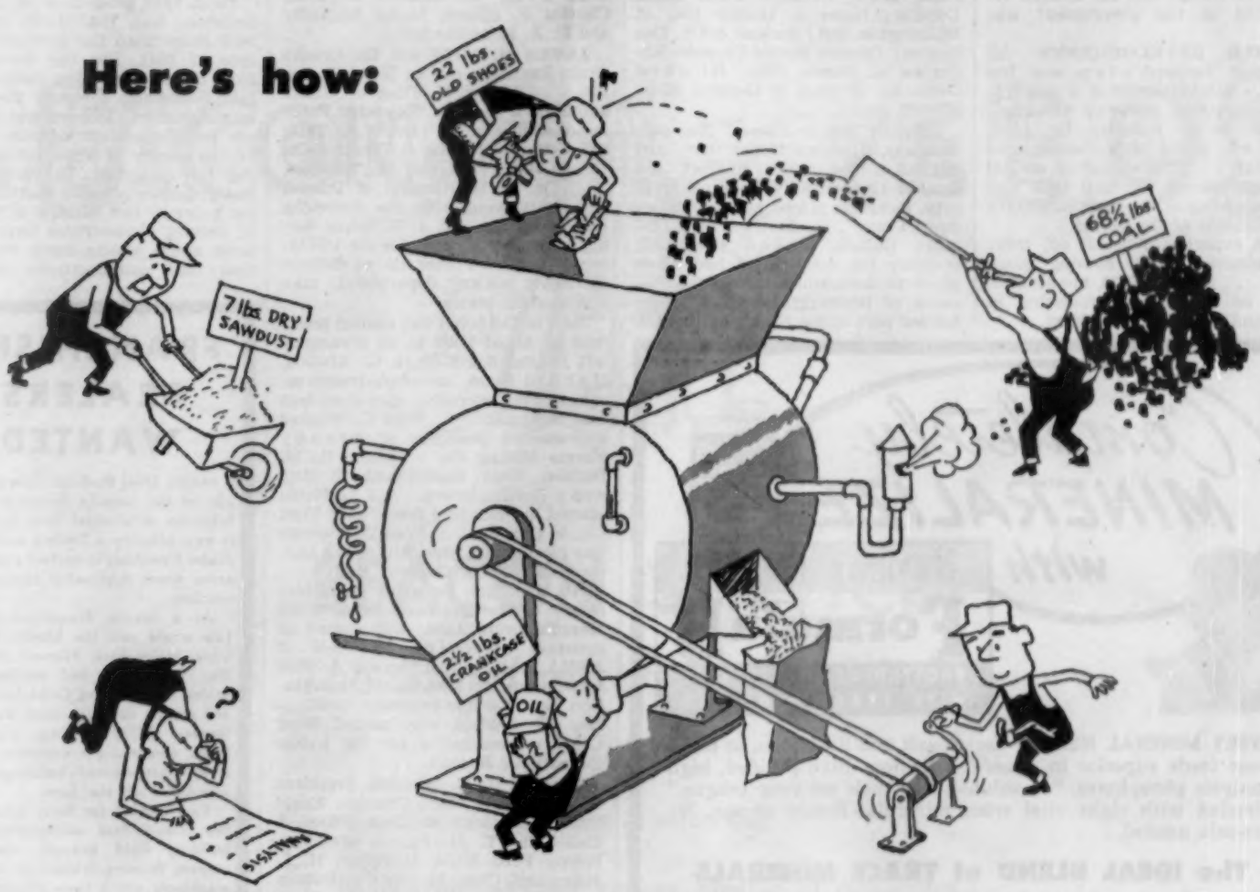
NEW ENGLAND BY-PRODUCTS CORP.
Distributors for Gorton-Pew Fisheries Company, Ltd. By-Products Div.
177 MILK STREET • BOSTON 9, MASS.

A Chick Starter Feed from COAL??

Sure . . . with a Good Guaranteed Analysis

. . . and Cheap!!!

Here's how:



Mix together 22 lbs. of old shoes, 68½ lbs. of hard coal, 2½ lbs. of crankcase oil and 7 lbs. of dry sawdust.

That mixture will give you the same analysis guarantee as is found on the tag of a chick starter feed . . .

Protein	20.0%
Fat	2.5%
Fiber	7.0%
N.F.E.	50.0%

This won't do much for chicks, but it can be sold cheap.

But making feeds that build production and profits for the farm feeder takes experience, plant and integrity. All double balanced Tone Feeds are formulated with skill and care from pre-tested quality nutrients. Tone Feeds are manufactured under rigid controls in the most efficient feed mill in this region.

There are cheaper feeds, but there are no feeds that give better production and farm profit than double balanced Tone Feeds, manufactured by . . .

KING MIDAS FEED MILLS

660 Grain Exchange Bldg. — Double Balanced TONE FEEDS — Minneapolis 15, Minn.

supply problems and their cooperation was sought. Supplies of some ingredients were getting scarce or had been virtually eliminated because of the war, and substitutes were necessary.

The AFMA, meeting at Hot Springs, Va., formally pledged the industry's best efforts in the federal program to hike food production. John B. DeHaven, Allied Mills, was reelected chairman. . . . The Grain & Feed Dealers National Assn. pointed out that the grain trade was anxious to serve the nation, but the sincere cooperation of the government was asked.

OTHER DEVELOPMENTS: An important forward step was the AFMA's establishment of a committee on nutrition, made up of technical men in the industry. Dr. J. E. Hunter, Allied Mills, was named chairman. . . . The spread of animal nutrition schools for feed men also was called one of the most important developments of the period.

With export outlets cut off, there was concern about housing grain crops. . . . Planned REA financing of home or community processing of feed and flour caused alarm. . . . "Gypsy" truckers continued to get heat from established businessmen. . . . There was a sharp gain in production of dog and cat foods. . . . There was more confusion and more interpretations were issued in connection with the wage-hour law. . . . An acute drouth hurt feed supplies in eastern areas. . . . One thousand feed mill workers at Buffalo struck.

Various companies announced new feed plants in 1941. Among them were Cooperative Mills at Cincinnati; Ralston Purina, at Omaha and Iowa Falls, Iowa; Alabama Flour Mills, Decatur; Hales & Hunter Co., at Wilmington, Del.; Sargent & Co., Des Moines; Eastern States Farmers Exchange at Huron, Ohio; Howard Grain Co. division of General Mills, Miami.

Herman Nagel formed his own company, Herman Nagel, Inc., and put out a new mineral product. . . . Quaker Oats acquired milling property, including a feed plant, at Sherman, Texas. . . . A strike at G.L.F. Mills, Buffalo, ended after four months; the cooperative had made plans to decentralize production because of labor problems. . . . Fire burned part of the Staley Milling Co. plant in North Kansas City. . . . Quaker Oats acquired from American Dairies, Inc., a substantial interest in grass products patents, and a new company, Cerophyl Laboratories, Inc., was formed. . . . Various chemical companies were building new plants or enlarging operations. . . . H. K. Webster Co. bought the Quaker Oats feed plant at Richford, Vt. . . . Fire destroyed the Vy Lactos Laboratories plant near Des Moines. . . . The Borden Co. announced new departments or divisions in the feed field, with the officials including Charles F. Kieser, Harry McNeilly and H. A. Bittenbender.

JAMES M. DOTY left the Omaha Grain Exchange to join Merck & Co., Inc. . . . Harry W. Titus of USDA published a book on "Scientific Feeding of Chickens." . . . Dr. W. C. Tully left Colorado Milling & Elevator Co. to join Hales & Hunter Co., Chicago. . . . Dr. H. R. Kraybill of Purdue University went with the American Meat Institute. . . . J. D. Sykes, formerly poultry coordinator for USDA, joined Ralston Purina Co. as division manager, poultry department, lake and central states.

John B. DeHaven was elected president of Allied Mills to fill a vacancy left by the death of H. G. Atwood. Harold Buist, secretary-treasurer, was elected executive vice president and treasurer. . . . Wirt D. Walker was elected president of Arcady Farms Milling Co. . . . Dr. R. M. Bethke, Ohio Experiment Station, won a Borden award. . . . J. G. Nellis opened his own feed firm, Nellis Feed Co., in Chicago. . . . Fred W. Thomas was elected vice president of the Larrowe division of General Mills. . . . E. P. MacNicol, for many years secretary of the Southern Mixed Feed Manufacturers Assn., was named as assistant to Ralph M. Field of AFMA; the Southern group decided to continue as a sectional organization but on a less extensive basis. . . . Ray N. Ammon was named West Coast representative for the Iodine Educational Bureau.

Deaths: H. G. Atwood, president of Allied Mills, Inc., Chicago; Emile Pfizer, president of Chas. Pfizer & Co.; John T. Morgan, president, Happy Feed Mills, Memphis; H. L. Hammond, Chas. M. Cox Co., Boston.

v v

1942

A Year of Expansion, Government Restrictions

It was a year of wartime expansion in feed production and use. It was a year of increasing restrictions by government edict. It was a year of scrambling for materials. It was the year of the birth of the General Maximum Price Regulation, which turned feed men into self-taught lawyers and accountants.

At the beginning of the year, new and expanded production goals for hogs, poultry and many other farm crops were announced by the USDA, "to meet war demands materially increased since the Japanese attack on Pearl Harbor."

Total 1942 production of pigs, for instance, was 104,734,000 head, or 24% more than the previous record crop of 1941. But the demand for feeds caused increasing shortages. By fall, Feedstuffs reported that "feed manufacturers, jobbers and brokers are seeking protein ingredients with all the energy of a shipbuilder looking for materials. In fact, a few isolated cases of mills shutting down for a day or two because of the lack of protein concentrates have caused some alarm among those who know that feed manufacturers must be

Completely MINERALIZE with Herman Nagel's Formula B

YOUR OWN BRAND FEEDS EVERY NEEDED MINERAL

PHOSPHORUS CONCENTRATE with TRACE MINERALS

EVERY MINERAL NEEDED except salt and limestone, to make your feeds superior in mineral nutrition. Five purified, high analysis phosphates, "so soluble they melt on your tongue," blended with eight vital trace minerals. Ready to use. No pre-mix needed.

The IDEAL BLEND of TRACE MINERALS

For phosphorus-rich feeds. The right portions of the eight vital Trace Minerals . . . Stabilized Iodine, Manganese Sulphate, Copper, Cobalt, Nickel, Iron, Zinc and Boron.

HERMAN NAGEL'S TRACE MINERAL CONCENTRATE

THE HERMAN NAGEL CO.

53 W. Jackson Blvd., Chicago 4, Illinois

ANOTHER "FIRST"

Flavor-Feen

Trade Mark Appd. For — Patent Appd. For

Scientifically Formulated to Destroy Internal Parasites!

New, T-A-S-T-Y PHENOTHIAZINE For Cattle IT'S FLAVORED!

Get More And Better Beef With Flavor-Feen —The Appetizing, T-A-S-T-Y Phenothiazine

● Cattle go for it and it goes for the destroyers—stomach and nodular worms. Aids in cattle grub control, too!

● Tastes so delicious, smells so good, it gets worm-controlling Phenothiazine into your cattle without resistance.

● Parasite-free cattle are healthier and more contented, grow extra pounds of *prime* beef—this means extra profits for you!

● Adjusted to continuous, low-level feeding . . . easily mixed with the feed or mineral supplement. For free-choice feeding.

Atomic Basic Chemicals Corp. P.O. BOX 10855 PITTSBURGH 36, PA.

WRITE FOR FULL FACTS!

Atomic Basic Chemicals Corp.
P.O. Box 10855, Pittsburgh 36, Pa.

Gentlemen: Without obligation please send full details on Flavor-Feen—how it can raise the quality and quantity of my beef production.

Name_____

Address_____

City_____ State_____

FRANCHISED DEALERS WANTED

Martin Steel Products Corporation, one of the nation's foremost manufacturers of all-steel farm buildings, is now offering a limited number of dealer franchises in certain profitable areas where substantial earnings are possible.

As a Martin Franchised Dealer, you would sell the Martin line of Silos, Haymakers, Harvest Hoarder Bins, for drying and storing small grains, High Round Cribs for drying and storing ear corn, Arch Buildings, General Utility Buildings, and Dairy Barns, comprising a complete line of steel prefabricated buildings easily assembled on the farm.

Your market for these products is the here-to-fore unexploited farm building field brought about by modern farming techniques and new machinery which have obsoleted the "old red barn," and made functional, modern steel structures a necessity on every farm. Estimates place the farm building demand at more than three-fourths of a billion dollars annually.

All Martin products are designed EXCLUSIVELY for farm use. The Martin name is widely known and respected by farmers. You would sell not just ordinary buildings, but the "Martin Way" of farming — a modern approach to agriculture proving profitable to more and more farmers every year.

In addition to aggressive national advertising, you would be supported by an effective, hard-hitting sales promotion program. We will train you in the use and sale of Martin products, and work with you in developing your territory. At your service would be our Research Department headed by one of the nation's foremost authorities on crop conditioning and storage, and farm buildings.

To be a Martin Franchised Dealer, you must be willing to devote full time to the job. There would be no large outlay of cash for inventory, and no trade-ins involved. Although you would be expected to make some capital investment, it would be small compared to your annual income as a Martin Franchised Dealer. Write today!

MARTIN STEEL PRODUCTS CORPORATION

563 Longview Avenue
Mansfield, Ohio

On this, our 35th year,
we congratulate Feedstuffs
on their 25th Anniversary

BEACON FEEDS

BEACON SERVICE

"The Standard of Comparison"

Beacon accepts the challenge of leadership . . .

1. To provide superior rations capable of maximum feeding profits.
2. To give constructive help to the dealer and feeder through trained, informed, and experienced sales and service representatives.
3. To so conduct our business as to provide profit to BOTH the feed dealer and the ultimate consumer.

Prosperous Beacon dealers in the Northeast will tell you, *"Beacon has the feed and the organization behind it."* Write and learn how Beacon can help you. There is no obligation.

Beacon dealers are located from Maine to Va. and W. Va.

THE BEACON MILLING CO., Inc.

CAYUGA, N. Y. YORK, PA. LAUREL, DEL. EASTPORT, N. Y.

kept going to keep the food production program on the move.

"Soybean meal is unobtainable, linseed meal is climbing rapidly and getting scarce, cottonseed meal is very hard to get, meat scraps are not offered, tankage is almost out of the market and alfalfa meal is not being quoted. Fish meal is still almost unobtainable."

Huge grain crops were produced, and in November Secretary of Agriculture Wickard announced that 300 million bu. of Canadian feed grains would be made available in the U.S. The large crops caught the country short of grain storage facilities. By April, farmers were being urged to build granaries and provide their own storage. A schedule of feeding at least 25 million bushels of wheat to livestock each month was called for, in order to produce enough meat products to provide for the armed forces and lend-lease commitments. Dr. R. M. Bethke of the Ohio Agricultural Experiment Station, recommended conserving of animal proteins by feeding them only in chick and pig starting and breeding rations, where they were essential. Illustrating some of the quirks turned up by the abnormal distribution, Feedstuffs reported that "the acute shortage of fish meal resulted in an unusual method of trading recently when a feed manufacturer, needing the product immediately and unable to buy it, 'leased' a carload from another mixer for $5 ton. He stipulated that he would replace the fish meal within 10 days."

PRICES OF MANY commodities were advancing rapidly. On April 29, the Office of Price Administration issued the General Maximum Price Regulation, covering almost every feed ingredient used in the U.S., establishing ceilings at the manufacturing, wholesaling and retailing levels. Each seller had his own price ceiling, which was the maximum price at which he sold his products during March. Feedstuffs commented: "The general price ceiling order is the broadest, most far reaching regimentation experiment ever attempted by the U.S. government. The closest previous comparison is the federal farm program, the social security system and compulsory military service. The maximum price regulation is so revolutionary, and so filled with social and economic meaning, that the OPA accompanied its publication with the statement that it 'will be abandoned as soon as possible after peace comes.'

Linseed cake and meal, milk products and mixed feeds were the only feed items specifically exempted from GMPR. The OPA task then was to write specific price regulations for all of the major items, to replace the "freeze" of the GMPR. Until the end of the war, there was a steady stream of regulations, exceptions, amendments and interpretations coming along.

There were many effects of the war other than price controls. Gasoline and rubber rationing curtailed feed industry activities. Feed dealers were given priority for new tires and trucks, but only, "if used exclusively in making delivery of feed to farmers." Retreated and recapped tires were also rationed, but were easier to get. For a while, some feed salesmen were granted extra gasoline, on the basis that they were service men helping to maintain food production. By mid-November, however, gasoline rationing was tightened and all salesmen were eliminated from the preferred class.

An odd side effect of the war was the entry into the feed business of automobile dealers. Seeking to preserve their dealer organizations during the period of restricted sales of autos, several motor car manufacturers were suggesting to their dealers that they enter the business of retailing feeds.

OTHER DEVELOPMENTS: Robert P. O'Brien, Fort Wayne, was named vice president and Clyde Hendrix, general sales manager of the commercial feed division of Pillsbury. The company bought the Champion Milling & Grain Co., Clinton, Iowa. . . . McMillen Feed Mills, Fort Wayne, bought Old Fort Mills, Harrisburg, Pa. . . . Woodson K. Woods resigned as senior vice president of Ralston Purina Co., St. Louis, and retired from active business. . . . Staley Milling Co., Kansas City, bought North Kansas City plant of Arcady Farms Milling Co., Chicago. . . . John W. Eshelman & Sons celebrated its 100th anniversary. It was believed to be the oldest business of its kind to have remained in the control of a single family.

Lloyd Larson discontinued his advertising agency at Mankato, Minn., to become editor of Poultry Supply Dealer, Chicago. . . . Purina opened a new plant in Omaha. . . . Quaker Oats Co. bought Chappel Bros. Inc., Rockford, Ill. . . . A Chicago Board of Trade membership sold for $100, the lowest price in more than 50 years. . . . Southern States Cooperative opened a new plant at Reading, Ohio. . . . R. Douglas Stuart was elected president of Quaker Oats Co., Chicago. . . . John K. Westberg, head of the grain and feed unit of OPA, was the chief "box office" attraction at the AFMA convention at French Lick.

A 60,000-lb. minimum for freight cars carrying flour or feed was put into effect.

Death: Jesse Lewis Clark, 72, cofounder of Dr. Hess & Clark, Inc., Ashland, Ohio, and sole owner of the firm since 1923.

v v

1943

Feed Industry Finds More of the Same

The same and more of it. Secretary of Agriculture Claude R. Wickard started the year by announcing Food-for-Freedom goals calling for the highest production in the history of American agriculture. The goals were designed to shape 1943 U.S. farm production to the needs of the United Nations.

Feedstuffs reported that "preparation of feeds for animals and fowls is listed as an essential industry by the War Manpower Commission and the Selective Service System, but this does not mean that everyone engaged in the manufacture or distribution of feeds is eligible for draft deferment, Washington officials have emphasized."

In fact, the impact of the war's influences became heavier as the year went on. Manpower, ingredients, packaging, pricing, transportation, rationing—each presented its own problem. In mid-January the OPA issued its first mixed feed price regulation. Feedstuffs reported: "Each feed mixer will establish his own maximum margin, based on his own records during six months of 1942-January, March, May, October, November and December. He cannot charge more than the ceiling price for any ingredient going into his mixed feed. His selling price may be adjusted to

Pioneers . . .

- in Vitamin and Trace-Mineral Products
- for Feed Manufacturers and
- On-the-Farm Service Programs
- for Their Customers
-

Experience is a priceless asset, and that's why it pays to do business with a pioneer . . . a firm with many years' experience in building a product or providing a service you need.

For example, today you hear much talk about the importance of the interrelationship of nutrients, and many researchers are showing increasing interest in this interrelationship.

Back in the 1930's, Ultra-Life introduced a multi-vitamin product to the trade. Since that time Ultra-Life vitamin and trace-mineral products have been consistently improved as new vitamins, growth factors, etc., were discovered. But the prime emphasis at Ultra-Life, since the first Ultra-Life products were introduced, has been the interrelationship of vitamins, minerals and other nutrients, because the secret of top nutrition lies in the balance of the various nutritional factors. We have been advertising that fact in Feedstuffs a great many years.

If you are a feed manufacturer, the full weight of Ultra-Life experience can be yours. You not only get this experience in the form of top quality vitamin and trace-mineral products to fortify your feeds, but you also secure full services of the Ultra-Life nutritional and research staff, formula service, laboratory and biological testing, two schools to train your employees in on-the-farm service work, training for your employees in the exclusive Ultra-Way Method of Internal Culling. In addition, tag registrations are made for you, tags are printed for you without cost, and complete art, advertising and printing departments furnish you with advertising aids to sell your feed.

Think it over. We believe we have something every feed manufacturer can use to advantage. We will be glad to give you full details.

Just write us or pick up your telephone and call us collect. Let us give you proof that it pays to do business with a pioneer!

Ultra-Life LABORATORIES, Inc.
Main Office & Plant, East St. Louis, Illinois
One of the Country's Oldest and Largest Manufacturers of Vitamin and Trace-Mineral Products

RICHER REWARDS AHEAD

Excerpts from an editorial in the Sept. 13, 1941, issue of Feedstuffs: "'Food will win the war and write the peace,' Secretary of Agriculture Wickard said in announcing the huge farm production campaign for 1942. He might well have emphasized the fact that the high goals for food production can be reached only through intensive feeding. . . . The feed industry has a tremendously expanded market tailor made for it, with the entire U.S. Department of Agriculture acting in the capacity of sales promotion agents. But the feed industry will not make the most of the unprecedented opportunity without displaying some salesmanship of its own. . . . And not the least thing to be kept in mind in this exceptional period is that the turn of events offers the feed industry the best chance it has ever had to establish the worth of honestly made, scientifically formulated, commercial mixed feeds. Let's don't let our eyes glisten too much at the sight of immediate profits that we will fail to see the even richer rewards ahead."

the fluctuation in the cost of ingredients which do not have ceilings.

"The OPA included control of resale margins in the mixed feed regulations, allowing wholesalers $2.50 a ton over the seller's list, and retailers $7.50 a ton above his cost at his place of business.

THROUGHOUT THE YEAR the constant stream of new price regulations, amendments and revisions continued, as more and more commodities were taken from the GMPR and placed under their own regulations. During this period John K. Westberg, a former feed man from the Eastern States Farmers Exchange, was price executive of the cereals, feeds and agricultural chemicals branch of OPA. Mr. Westberg had appointed industry advisory committees to assist in framing price schedules and had done much to win the understanding and cooperation of the affected business men in working under price controls. The latter never could be wholly successful, however, and were constantly subject to confusion and revision.

Mr. Westberg returned to private industry, with the Albers Milling Co., on July 1. He was succeeded temporarily by Atherton Bean, International Milling Co., Minneapolis. Colin S. Gordon, Quaker Oats Co., Chicago, accepted the post of chief of the branch on Sept. 28.

Aside from the problems created by price controls, the industry was plagued by many types of regulations. The ODT limited wholesale deliveries of feed to two a week; feed service men were allowed gasoline allocations sufficient to drive less than 15 miles a day. The WFA imposed restrictions on the sale, shipment and inventories of oil seed meals and animal protein feeds. Late in the year, Feedstuffs reported that "the sweeping changes in the corn ceilings, freeze orders in barley, oats and sorghums, and upward revision of the feed wheat basis did not clarify the feed grain situation. It merely doubled and redoubled, for the present at least, the chaos in the feed and grain industries."

IN MARCH, the CCC was authorized to sell corn to processors, feed manufacturers and feeders at ceiling prices, each sale to be limited to a 7-day supply. A month later, the CCC was authorized to dispose of an additional 100 million bushels of government-owned wheat for feed, at prices substantially equal to corn parity. Wheat sales were limited to 30 days' supply. It was reported in mid-summer that "an enormous volume of ground feed wheat is being sold to the feed trade by flour millers and other processors."

A revision of Food Production Order 9 in the fall not only continued restrictions on shipments, sales and inventories of oil seed meal and cake, but authorized the Director of Food Production to require the setting aside of 20% of the monthly production of the four principal oil meals for distribution as directed by him. On Oct. 23, a news report stated that "continued withdrawal of commercial feed from the market as the protein situation becomes increasingly worse is leaving the majority of the feed manufacturers with chiefly poultry feed to sell and very little more. Some pig starter, a little dairy feed, not over 16% protein, and limited production even of the feeds that require little more than ground grains."

TWO EVENTS of vast and lasting importance occurred during the year. On Feb. 11 at a Chicago meeting a Feed Industry Council was organized "to act for the feed industry in matters of national importance." It represented feed distributors and mixers of all sizes and of every section of the country. Elected chairman was J. A. McConnell, G.L.F., Buffalo. Its purpose was to analyze the confusing situations that surrounded the industry, reducing them to clear fundamentals, and emphasizing the facts both to government agencies and the industry. It first tackled the protein shortage and distribution, showing that the protein supply would produce more meat, milk and eggs if it were fed in balanced rations than if

Congratulations,

FEEDSTUFFS,

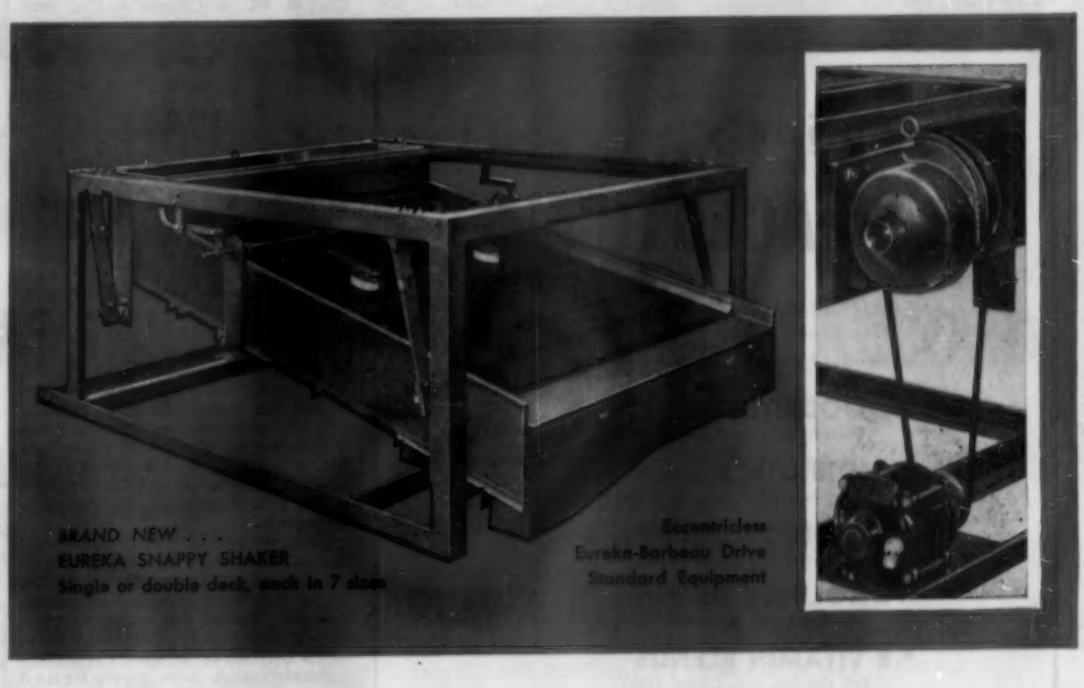
on your 25th anniversary

Remindful of your valuable service to the feed industry, the Waterloo Mills Company extends its best wishes to you, Editor Harvey E. Yantis, and your staff, on this eventful occasion.

WATERLOO MILLS COMPANY

Manufacturers — Jobbers — Distributors

Waterloo, Iowa



MAYBE...

MAYBE the reason Eureka Snappy Shakers are so popular in feed mills today is because of their versatility . . . screening oversize and fines from pellets and crumbles; handling scratch grains, mash or dairy feed; bulky, heavy or light fluffy stocks—in fact, most any product requiring vigorous, intense screen action.

MAYBE the reason is far more economy . . . for they are designed and built for rapid handling and uniform cleaning.

MAYBE the reason is the day after day, year after year, dependability of operation and sturdy construction.

MAYBE you ought to find out why! Here's how to do it. Just send a postcard and tell us to send you photo-print bulletins on this remarkable, newly designed, Eureka Snappy Shaker.

MAYBE you will be glad you did, for this bulletin details the many new, fine features which, more than ever, make this Eureka a most-wanted addition or replacement of present equipment.

S. HOWES CO., INC. EUREKA SILVER CREEK, N. Y. • LONDON, ENGLAND

Since 1856

"SNOW-FLAKE"
OYSTER SHELL

it were fed straight. The Feed Industry Council for the remainder of the war was the principal factor in selling the feed industry's value to the government and in stimulating the proper use of balanced rations on the nation's farms. Feedstuffs called it "the first united feed industry front," and that is what it was.

Establishment of the Feed Industry Council led directly to the second important event of this nature, the appointment of Walter Berger, on Dec. 1, to become head of a newly established Feed and Livestock Branch of the War Food Administration. Mr. Berger was then president of the Des Moines Oat Products Co., and was a member of the Feed Industry Council. At several meetings of the council and at conferences of council members with government agency representatives, Mr. Berger had impressed everyone with his grasp of the feed industry problems—particularly the need to conserve and utilize protein. With Mr. Berger in charge of the government program on feed use, and with the Feed Industry Council, representing the entire feed industry, offering wholehearted cooperation, the problems and the requirements were much better understood than they had been previously. There were rough times still ahead, but they could be met with understanding and clear thinking instead of confusion.

OTHER DEVELOPMENTS: The American Dehydrators Assn., with 30 members, elected D. E. Merrick president. . . . Sales of elevator dust were reported in Minneapolis at $11@13 ton. Dealers recalled in 1919 of buying it for $28 a carload. . . . Frank C. Bowes was elected president of the New England By-Products Corp., Boston. . . . Fire destroyed the feed plant of the O. A. Cooper Co., Humboldt, Neb. . . . Farmers Union Grain Terminal Assn., St. Paul, bought the St. Anthony & Dakota Elevator Co., Minneapolis. . . . Albers Milling Co. received priorities to rebuild its Oakland, Cal., mill, which had been destroyed by fire.

General Mills, Inc., Minneapolis, established a new vegetable oil and protein division, with Whitney H. Eastman as president. . . . Production of dicalcium phosphate, designed to relieve a wartime shortage of bone meal as a mineral supplement in livestock and poultry feed, started at the Tennessee Valley Authority's Muscle Shoals, Ala., plant. . . . General Mills, Inc., received priorities to convert buildings and equipment at Belmond, Iowa, to a soybean processing plant. . . . . Stockholders of Allied Mills, Inc., Chicago, were asked to authorize sale of the Century Distilling Co., a wholly owned subsidiary.

Requests by feed manufacturers for allocations of riboflavin were cut to 51% and the industrial demand for urea was described as such that none of the chemical was available for feeds, the WFA announced in its monthly allocation of chemicals.

Deaths: Leigh H. Kirkland, 69, president of the Grange League Federation Exchange, Inc., at Fredonia, N.Y.; John H. Barton, former president of the National Oil Products Co. at Flemington, N.J.; George M. Chapin, 66, of Chapin & Co., feed manufacturers, Hammond, Ind.; James E. Larrowe, 80, founder of the Larrowe Milling Co., Detroit.

v v

1944

Shortages and Ceilings Complicate the Business

Shortages and ceilings, complicated by an increasing demand for its products, occupied the feed industry throughout 1944. As the year opened, danger of a wheat shortage was pointed out editorially. Domestic use of wheat for feed purposes was at a rate of 350 to 400 million bu. for the crop year, with another 100 to 125 million bu. going into alcohol manufacture. Government agencies made arrangements to import 40 million bu. of corn from Argentina, which started to arrive during the last half of the year at Atlantic, Gulf and Pacific ports.

Also, by mid-July crop reports indicated near record yields of wheat, corn, oats and barley. Relief of the acute shortages was not apparent, however. Walter Berger, in his position as chief of the Feed and Livestock Division of the Food Production Administration, was given broad duties and authority over virtually the entire feed industry, including the responsibility of estimating future supplies and requirements of feed, livestock and livestock products. He announced unequivocally that distribution of protein meals, including that set aside by processors at the direction of the government, would be made through normal trade channels, and not wholly controlled by state and county AAA committees.

In February the Feed Industry Council, of which the chairman was J. A. McConnell, released figures on 1944 feed supplies and needs which showed a deficit in total concentrate feeds of almost 18 million tons, or more than 12%. Shortage in grains and millfeeds was 11% and that in high protein feeds 25%. The Council called for conservation, more efficient feeding, and an orderly reduction in livestock and poultry numbers.

THE SITUATION did improve materially by the end of the year. The conservation and culling campaigns were effective. A quota allocation system and a 60-day limitation on inventories eased the protein situation. Grain harvests were large, but did not move to market.

Finally, in the last quarter of the year, supplies increased markedly. A number of grain prices dropped below ceilings. In September, Feedstuffs reported that after more than a year's suspension, trading in millfeed futures at Kansas City suddenly came to life with mills offering Jan.-Feb. bran 30¢ below ceiling. The development was seen as "another link in a rapidly forming chain of events which indicates a departure from maximum price limits in the merchandising of feedstuffs this winter. Other signs were reestablishment of corn futures trading, increasing offerings of new crop corn below ceilings, sharp breaks in all grain prices as the war progresses toward a climax, and a material slackening in the demand for commercially mixed and straight feeds."

All through the year, Feedstuffs' news and editorial columns were dominated by regulations, amendments to regulations, explanations of regulations, and complaints against regulations. The OPA and its policies were a particular irritation. This was climaxed in September when the St. Louis office of OPA brought suit against Ralston Purina for $3 million, based on methods of arriving at margins. Triple damages were asked. The district office released the story to newspapers a full day before giving Purina official notice. OPA officials in Washington, including the chief enforcement officer, expressed sur-

Specifide's

FARMACEUTICALS*

*Definition: Specifide's Fine Chemicals for Fine Feeds. (A term not found in Webster's, but used daily in the feed trade.)

- GOODRITE DPPD (Diphenyl-para-phenylenediamine)
- ANTIBIOTICS Penicillin (Eli Lilly), Bacitracin
- ARSONIC ACID DV. (Arsanilic Acid) Introduced by Specifide, Inc.
- CHOLINE CHLORIDE (Manufactured Since 1946)
- B VITAMIN BLENDS Any Combination. (Since 1949)
- NIACIN and Extended Niacin
- CALCIUM PANTOTHENATE and Extended Cal Pan
- RIBOFLAVIN Various Potencies
- METHIONINE (Dow)
- B_{12} PRODUCTS

and . . .

PHENOTHIAZINE—

An old acquaintance now becomes a valuable friend in its recently discovered greater importance as an anthelmintic, through use in Feeds, in Drenches, in Minerals, in Salt, in Continuous Low Level Feeding.

For the Complete Line of Feed Additives from One Source, Contact

Specifide, Inc.

Fine Chemicals for Fine Feeds

P.O. Box 5305 • Indianapolis, Ind.

VERSATILE BULK FEEDING . . .

from a trickle to a torrent with VELOFEEDER

A mechanical vibrating feeder especially designed for grains, cubes, pellets, poultry and cattle feeds and similar materials at lower cost, higher efficiency.

Here's Why!

Higher Output—300 to 50,000 lb./hr. hard granular materials; 300 to 30,000 lb./hr. soft ground materials.

Lower Power Needs—⅓ hp. motor powers unit—inexpensive as a 100-watt light bulb!

Smaller Space Needs—35 inches long, 17½ inches wide, 19 inches high. Standard vibrating tray 16 inches wide—stainless steel when required.

Easier Control—simple adjustment over wide operating range (near 0 to 50 fpm. max.).

Safer Operation—motor is explosion-proof (Class 2, Group G), where hazardous conditions exist, at slight extra cost. Complete dust enclosure on application.

Less Vibration—working frequency is 1850 vibrations per minute; little or no vibration is transmitted to mounting installation (mounts with only 4 bolts!).

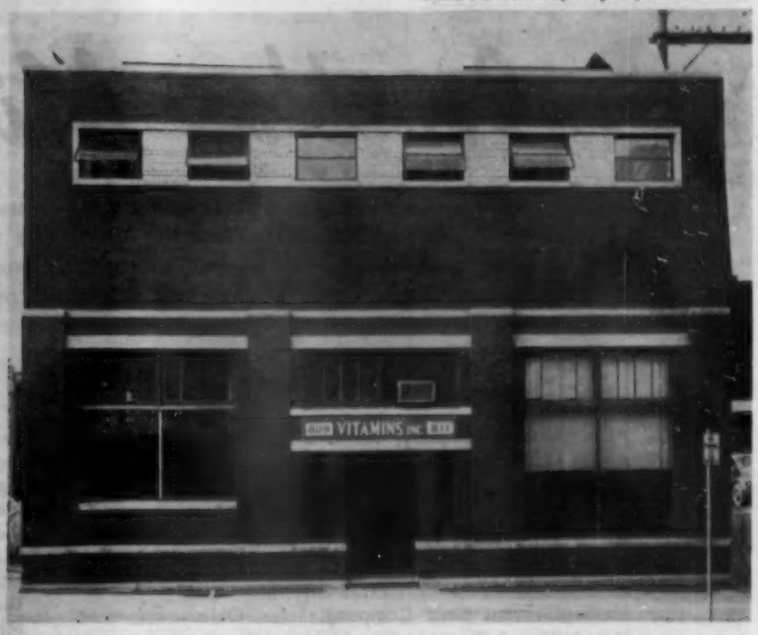
If you're interested in better bulk feeding at lower operating cost, write for Bulletin 5302 with complete specifications and drawing.

Richardson SCALE COMPANY, Clifton, New Jersey

Atlanta • Boston • Buffalo • Chicago • Detroit • Houston • Memphis • Minneapolis New York • Omaha • Philadelphia • Pittsburgh • San Francisco • Wichita • Montreal Toronto • Havana • Mexico City • San Juan

MATERIALS HANDLING BY WEIGHT SINCE 1902

33⅓% INCREASED CAPACITY IN OUR FACTORY



Completely Rebuilt Since Disaster Struck Us on NOVEMBER 30TH, 1954

NOW... VITAMINS, INC., REVIEWS THE RECORD

VITAMIN D HISTORY

Our principals always have had a major interest in Cod Liver Oil, the fountain-head of all vitamins. In 1928 when the Steenbock patents were first issued, our predecessors became deeply involved in the mastery of "know-how" in both natural and synthetic Vitamin D.

First in marketing a fortified DOUBLE "D" COD LIVER OIL, they spent a considerable amount to be able to extract Vitamin D from Cod Liver Oil at less than two dollars a million units.

When Vitamins, Inc., first entered the synthetic Vitamin D production field, Vitamin D_2 (for animals), was held in monopolistic hands at a price nearly 10 times higher than what D_2 sells for today.

Caught between a cross-fire of patent litigations, Vitamins, Inc., became a licensee under the Steenbock patents owned by the Wisconsin Alumni Research Foundation in 1939.

According to the U. S. Tariff Commission reports, we account for more than 33 1/3% of all Vitamin D_2 and D_3 produced in the United States.

VITAMIN A HISTORY

Early in the 1930's shark liver oil was found to be one hundred times more potent in Vitamin A than Cod Liver Oil. With our "know-how" in Cod Liver Oil extraction we created the first commercial Vitamin A fish liver oil concentration plant in the United States.

Seven such plants were soon in operation and today we still hold a position estimated at 50% of the Natural Vitamin A Concentrate production in the United States.

Prior to the ending of World War II, Vitamins, Inc., produced fish liver oils at its Bellingham, Washington, and Miami, Florida, plants. Today we blend fish liver oils from all parts of the world and standardize and stabilize them in both Vitamin A and D_3 and/or D_2. Stocks of all potencies are immediately available from our Chicago warehouse and at those of our affiliates in Kansas City, Missouri, and Buffalo, New York.

RUMEX HISTORY

The origin of this product predates the A.P.F., Vitamin B_{12}, and Antibiotic era in animal feeding. RUMEX contains the live rumen organisms and valuable "unknown factors" for growth stimulation. Since 1946, Rumex has grown to be an important part of our concentrate business. With RUMEX, cattle and sheep are put on full feed quicker and by fortifying Beef Cattle, Dairy Cattle and Sheep Supplements and feeds with RUMEX, greater feeding efficiency, at lower cost, is assured.

SEX HORMONE HISTORY

Since 1942 we have manufactured Stilbestrol, Hexestrol, and other male and female hormone-like substances. Our research is now nearing completion and contemplates a water-soluble Stilbestrol for better use in fattening steers. The outcome of this development will be of interest to all segments of the feed manufacturing industry.

LET US HAVE YOUR REQUIREMENTS

WRITE, WIRE OR PHONE

ENglewood 4-6000

VITINC TRADE MARK

VITAMINS, INC. CHICAGO

VITAMINS, INC.

809 WEST 58th ST. CHICAGO 21, Ill.

PIONEER MANUFACTURERS OF VITAMIN CONCENTRATES

In the Midwest—

These formula feed manufacturers have formed this association better to serve the growing agricultural industry of this area. You will find these firms always eager to co-operate in any project to further the best interests of agriculture. And you will find in their products a full measure of the benefits of the scientific achievements recorded herein.

Albers Milling Company, Kansas City, Mo.
Ambler Milling Company, San Gabriel, Calif.
Ames Reliable Products Company, Ames, Iowa
Ardmore Milling Company, Ardmore, Okla.
Arrow Feed Mills, Junction City, Kansas
B & D Mills, Grapevine, Texas
Bartlett and Company, Kansas City, Mo.
Binding-Stevens Seed Company, Tulsa, Okla.
Blair Milling & Elevator Co., Atchison, Kansas
Jeff D. Brown & Company, Springdale, Ark.
Cameron Feed Mills, North Little Rock, Ark.
Carter Feed Milling Co., Odessa, Mo.
Central Feed & Grain Co., Kansas City, Mo.
Chic-O-Line Feed Mills, Chickasha, Okla.
H. K. Cochran Company, Little Rock, Ark.
Coe Seed Company, Topeka, Kansas
Cole Grain Company, Muskogee, Okla.
Commander-Larabee Milling Co., Kansas City, Mo.
G. E. Conkey Company, Nebraska City, Neb.
Consumers Cooperative Association, Kansas City, Mo.
O. A. Cooper Company, Humboldt, Neb.
The Crete Mills, Crete, Neb.
Crowley Feed Company, San Antonio, Texas
Dannen Mills, Inc., St. Joseph, Mo.
Darragh Company, Little Rock, Ark.
Denver Feed Company, Denver, Colo.
Dixie Mills Company, East St. Louis, Ill.
Donovans, Inc., Albert Lea, Minn.
Eagle Milling Company, Bentonville, Ark.
Evergreen Milling Co., Ada, Okla.
Farmers Feed & Supply Company, Tipton, Iowa
Farmers Produce Company, Rogers, Ark.
Farmers Union Jobbing Association, Topeka, Kansas
Feeders Supply & Manufacturing Co., Kansas City, Mo.
Geis Mills, Enid, Okla.
General Mills, Inc., Kansas City, Mo.
Gooch Feed Mill Co., Salina, Kansas
Greene Milling Co., Siloam Springs, Ark.
Hardeman Milling Company, McAlester, Okla.
Horse-Shoe Mills, Inc., Pine Bluff, Ark.
Humboldt Elevator Mills, Humboldt, Kansas
Johnson & Steele, Springdale, Ark.
W. B. Johnston Grain Co., Enid, Okla.
Josey-Miller Company, Inc., Beaumont, Texas
The Kansas Milling Company, Wichita, Kansas
Kelso Seed Company, Pittsburg, Kansas
Key Milling Company, Clay Center, Kansas
Langfitt Seed Farms & Elevator, Bethany, Mo.
La Pryor Milling Company, La Pryor, Texas
Lexington Mill & Elevator Co., Lexington, Neb.
Light Grain & Milling Company, Liberal, Kansas
Lipscomb Grain & Seed Company, Springfield, Mo.
Manhattan Milling Company, Manhattan, Kansas
Marco Mills, Joplin, Mo.
M.F.A. Cooperative Grain & Feed Co., St. Joseph, Mo.
M.F.A. Milling Company, Springfield, Mo.
The Midwest Feed Company, Hutchinson, Kansas
Mid-West Mills, Abilene, Kansas
Milbank Mills, Chillicothe, Mo.
Morrow Milling Company, Carthage, Mo.
National Oats Company, East St. Louis, Ill.
Niemeyer Grain Company, Little Rock, Ark.
Norfolk Cereal & Flour Mills, Norfolk, Neb.
Norris Grain Company, Webb City, Mo.
Nutrena Mills, Inc., Minneapolis, Minn.
Ocoma Feed Mill, Elkhorn, Neb.
O. K. Feed Mills, Fort Smith, Ark.
Pay Way Feed Mills, Inc., Kansas City, Mo.
Peter Hand Foundation, Chicago, Ill.
Peterson Produce Company, Decatur, Ark.
Pillsbury Mills, Inc., Clinton, Iowa
Pioneer Feed Company, Beatrice, Neb.
Power Feed Mills, Abilene, Texas
Quisenberry Mills, Inc., Kansas City, Mo.
Ralston Purina Company, St. Louis, Mo.
Red Comb Pioneer Mills, Marshall, Mo.
Sargent Mills, Inc., Waverly, Mo.
Joe Schafer and Sons, Springfield, Ill.
Schreiber Mills, Inc., St. Joseph, Mo.
Shawnee Milling Company, Shawnee, Okla.
Shellabarger Feed Mills, Salina, Kansas
Southland Feed Mills, Dallas, Texas
Squealer Feed & Grain Company, Harlan, Iowa
Staley Milling Company, Kansas City, Mo.
F. M. Stamper Company Mills, Moberly, Mo.
Stillwater Milling Company, Stillwater, Okla.
Superior Feed Mills, Inc., Oklahoma City, Okla.
C. A. Swanson & Sons Hatchery Co., Fayetteville, Ark.
Tarkio Molasses Feed Company, Kansas City, Mo.
Teichgraeber Milling Co., Emporia, Kansas
Texas Farm Products Co., Nacogdoches, Texas
Tindle Milling Company, Springfeld, Mo.
Topeka Mill & Elevator Co., Topeka, Kansas
Tyson's Feed & Hatchery, Springdale, Ark.
Uncle Johnny Mills, Houston, Texas
Universal Mills, Ft. Worth, Texas
Vinita Hay and Grain Co., Vinita, Okla.
Vitality Mills, Inc., Chicago, Ill.
Waterloo Mills Company, Waterloo, Iowa
J. F. Weinmann Milling Co., Little Rock, Ark.
Wendland Grain Company, Temple, Texas
Western Cottonoil Company, Abilene, Texas
Whitlock Lines Mill, Monett, Mo.
Winterscheidt Milling Co., Seneca, Kansas
Wolf Milling Co., Neosho, Mo.
Wolfe Feed & Grain Co., Hiawatha, Kansas
Worley Mills, Portales, N. M.
L. C. Worth Commission Co., Kansas City, Mo.

Midwest **FEED MANUFACTURERS ASSOCIATION**

20 WEST 9TH STREET BUILDING • KANSAS CITY 5, MO.

prise, as it was believed there that legal action could not be justified under the terms of MPR 378, the mixed feed order. Inasmuch as most other companies followed the same methods of figuring margins, which had been given verbal approval by the OPA, the case was an important one to the entire industry. (Editor's note: It was never brought to trial, but was settled out of court. The case was instrumental in speeding revision of the price regulation.)

Shortages of bags and boxcars were among the other headaches of the year.

OTHER DEVELOPMENTS: More than 6,000 letters from all over the world and in many languages highlighted the 50th anniversary celebration of Purina Mills at its parent St. Louis plant. Many messages were sent personally to W. H. Danforth, founder and chairman of the board. . . . . Lt. Col. George MacNicol, son of E. P. MacNicol, assistant to the president of the AFMA, was killed in action. . . . George P. McCarthy was appointed director of feed and sales research for Universal Mills, Fort Worth. . . . The Midwest Feed Manufacturers Assn. was reorganized, with Thomas W. Staley, Staley Milling Co., Kansas City, as president. . . . Merit Mills, Inc., succeeded Hardeman-King Co., Oklahoma City. . . . Clyde Hendrix was appointed vice president of the feed mills division of Pillsbury, succeeding Robert P. O'Brien.

Prof. Raymond T. Parkhurst, head of the department of poultry husbandry at Massachusetts State College, was appointed director of research and nutritional service for the Flory Milling Co., Bangor, Pa. . . . Fire caused by a dust explosion destroyed the plant of Kasco Mills, Inc., Waverly, N.Y. . . . Arthur F. Hopkins was elected president of Chas. M. Cox Co., Boston, to succeed Charles M. Cox, who died. . . . Dr. H. Ernest Bechtel rejoined the research staff of Larrowe Division of General Mills, after four years spent in dairy research and teaching at Kansas State College.

. . . Oscar M. Straube resigned as president and general manager of Nutrena Mills, Inc., Kansas City, and was succeeded by R. E. Whitworth.

Deaths: Robert C. Crawford, 50, Oyster Shell Products Co., St. Louis; Frederick M. McIntyre, former president of the Eastern Federation of Feed Merchants, at Potsdam, N.Y.; Rudolph Opsal, 54, Central Feed Supply Co., former sales manager for Arcady Farms Milling Co., Chicago. . . . Ward A. Brown, 50, Ralston Purina Co., St. Louis; LeRoy LaBudde, 45, LaBudde Feed & Grain Co., Milwaukee; Donald Ross Mihills, National Food Co., Fond du Lac, Wis.

v v

1945

Shortages, Swaps, More Curbs Trouble the Trade

During the war years of 1944-45, convention program planners had no problem. The OPA, WFA and other of the alphabet agencies made their own problems, and furnished the speakers to explain them. Industry men serving the government were in such demand as speakers that they could have spent all their time on the circuit and would have had no time to write new orders—but they didn't do the former and did do the latter, and here we are.

In January the Office of Defense Transportation announced that conventions could no longer be held unless it could be proven that cancellation of the gathering would "impede the winning of the two wars that we are fighting." Feedstuffs editorially commented: "Conventions, like birds' nests, are principally interesting to those who own them. If you are a part of the show, it seems like quite a big affair. If you just happen by, you wonder how so many folks have time to come 8,000 miles to spend four days wearing a blue badge with a yellow border. Next time you wear the badge, some one else does the wondering—and there you are." The ban on conventions lasted until Oct. 1. The AFMA did not hold a convention that year. The Grain & Feed Dealers National Assn. held an early winter meeting, as did the Central Retail Feed Assn. The latter was by far the largest meeting of the year, with more than 1,100 registered.

MANPOWER SHORTAGES became mere severe, forcing feed manufacturers to ration their production. Grain and protein shortages again developed.

In July, the Feed Industry Council warned the Secretary of Agriculture that further expansion of livestock and poultry production could not be undertaken on the basis of current feed supplies. Feeding ratios were highly profitable, however, and demand for both feed and food was terrific.

THE CUMULATIVE EFFECT of these shortages, plus the pressures generated by a keen demand and the lid of price ceilings resulted, late in 1945, in the most bizarre situation marketwise of the war years. This was the development of a barter system, whereby nothing sold for cash, but everything moved through "swaps."

Excerpts from Feedstuffs editorials help tell the story of "swapping" practices at that time: "These 'swapping' practices have severely crippled the operation of some feed manufacturing plants already, and certainly will injure more. Unless they can be curbed effectively, there is likely to be virtually a complete breakdown in the formula feed business.

"It is more and more evident that the price ceilings on feeds are principally responsible both for the abnormal demand for proteins and for the maldistribution of them. Cash is no longer a market factor; it has been replaced by primitive barter. Because of this, supplies get into strange hands and are not available to those who do not have trading material. Those who do have the stuff to trade are able to gain almost a monopolistic advantage over their competitors.

By year's end Feedstuffs reported that commodity bartering had reached a new peak of frenzy under pressure of lagging movement of grains and continued scarcity of protein feeds. Walter Berger had proposed a voluntary program to the feed industry designed to overcome the protein shortage and avoid further controls by the government. Basis was that feed manufacturers agree to cut back their planned expansion program, with emphasis on poultry feeds, by one-half, and to adopt rigorous conservation measures. By the end of the year, this program was starting to have some effect, and there also was evidence that poultry liquidation was getting under way.

PRICE REGULATIONS continued to plague the industry. In May, a new formula feed order (MPR 585) was issued to replace MPR 378.

The intent of MPR 585 was to "spell out" in detail the methods of determining margins for sellers of every class, and to cover all foreseeable conditions, specifically and clearly. Within two months, however, OPA found it necessary to issue 66 changes in the carefully thought out order. All of them had to be studied, analyzed and digested by the busy feed man if he was to comply with the regulation.

In August, the war ended. Relaxation of wartime controls started almost immediately. The mandatory 48-hour week, gasoline rationing and quite a number of similar restrictive measures were discontinued. Price controls, however, died a slow death.

OTHER DEVELOPMENTS: Ray Ewing announced his resignation as Pacific Coast manager of the vitamin division of the National Oil Products Co. and the formation of his own company to sell and manufacture feeds and concentrates. . . . In February, a terrific storm in the New England States disrupted distribution of supplies and caused an emergency to be declared. Eighty two feed manufacturers pledged to provide 80 cars per day of formula feed of guaranteed analysis to relieve the acute shortage in the Northwest. . . . Dr. Harry J. Prebluda was named manager of special product sales by U.S. Industrial Chemicals, Inc., New York. . . . J. D. Dean, described as a farmer, organizer and business advisor, was named executive secretary of the Midwest Feed Manufacturers Assn. . . . Oscar M. Straube purchased controlling interest in May Way Mills, Kansas City, and changed the name to Pay Way Feed Mills, Inc. . . . H. R. Harmer, president, P. R. Kimble, vice president and general manager, and several others resigned from the Hubbard Milling Co., Mankato, Minn. Elected president and general manager of the company was C. B. MacLeod, formerly sales manager for the International Milling Co., Minneapolis. . . . Harold J. Buist was elected president and chairman of the board of Allied Mills, Inc., Chicago.

W. E. Glennon of Bement, Ill., was employed by the American Feed Manufacturers Assn. as assistant to the president, Ralph M. Field. . . . Maurice Johnson, for 10 years special representative for Feedstuffs in the Southwest with headquarters in Kansas City, resigned to join Staley Milling Co. of that city as vice president and secretary. . . . Martin E. Newell was named associate manager of the Kansas City office of Feedstuffs, of which Robert E. Sterling was manager. . . . Archer-Daniels-Midland Co. announced plans for a new feed manufacturing and soybean plant at Mankato, Minn. . . . Pillsbury announced that it would build a new feed mill at Lima, Ohio. . . . Sale of the entire capital stock of Nutrena Mills, Inc., Kansas City, to Cargill, Inc., Minneapolis, was announced.

SWAP SHOP

From the Jan. 5, 1946, issue of Feedstuffs: "A Minneapolis feed broker says he is considering taking the sign off his door that says 'We Buy and Sell' and substituting therefor 'We Exchange,' with a three-ball sign over it. The current rate of exchange is five cars of corn for one of linseed or three cars of soybean meal for one of fish meal."

WHERE'S THE FEED?

From an editorial in Feedstuffs in September, 1946: "The question as to what has happened to feed supplies is not difficult to answer when one studies the statistics. The answer is that nothing has happened to feed supplies, except that they have increased to the largest volume ever available, and are 300 to 400% greater than they were a decade ago. The acute shortages now existing have their source solely in the tremendous demand that has grown steadily since the end of World War I, and that has doubled since this country's entrance into World War II.

"It is well for feed men to keep in mind that feed production has been tripled or quadrupled in the past 10 years or so, and that what is now a feed shortage would have been a chaotic surplus on a prewar basis. At least two important factors should operate in the feed industry's favor, however, one being that farmers unquestionably have had a first hand and powerful demonstration of the efficiency of good feeds and good feeding practices, and will be easier to sell than they were a few years ago; the other is that, in peace or war, there never has been a feed surplus in this country if every farmer fed his herds and flocks balanced rations and for full production. How much of the wartime increase in feed sales can be retained in 'normal' years is not exactly predictable, but it is certain that a substantial part of the answer lies in how the feed industry conducts its postwar operations, of which selling will be far from the least important phase."

v v

1946

The Year of Transition Brings Troubles, Too

The year 1946 was a year of transition—from strict government controls on prices and use of ingredients to no controls; from shortages to plenty; from trying to avoid sales to trying to boost sales; from the wartime type economy to a less regulated peacetime economy, and it was a period which was not without its pains for the feed industry.

Artificial shortages were created by controls, and trading or swaps of ingredients, as opposed to purchases, reached such proportions that price ceilings meant little and money by itself meant virtually nothing. New orders followed wartime orders, regulations were issued to correct previous errors, allowing black markets to flourish and bringing additional confusion. Supplies were further reduced by export demands.

Special restrictions were put on protein consumption, and there were orders designed to restrict swapping of protein meal for other commodities.

Sweeping advances in ceilings on grains and other commodities were issued in May in an effort to correct the situation, and then on June 30 OPA died. Prices advanced sharply and then eased again. With new control legislation, price curbs went back on at the end of August, bringing more problems. Finally, in October, the government swept away price regulations and use limitations.

Before the end of controls, feed business was seriously hit. Production was down, and some plants shut down for a time while others operated at far less than the previous year's rate. Poultry and livestock were liquidated in some sections because of the feed shortage, and in some cases at a "ruinous pace." Meanwhile, bumper crops were being harvested, and later the feed shortage, described as the worst in history, was just about over as a result of abundant crops, free trade and the reduction in livestock numbers.

OTHER DEVELOPMENTS: A shortage of boxcars and a railroad strike troubled the industry. . . . A freight rate increase was granted late in the year. . . . Sign of the times: A headline read, "Grain Firm Follows OPA Advice But Is Fined Anyway." . . . The Midwest Feed Manufacturers Assn. condemned bartering practices and sought legislation to prohibit swaps and tie-in sales. B. D. Eddie, Superior Feed Mills, was named association president. . . . USDA urged selling of old hens and buying of two pullets. . . . A turkey price support program during the feed emergency was announced. . . . The government recommended fewer hogs. . . . Grain exchanges halted futures trading for a while because of shortages and confusion. . . . By August, there was the first real crimp in feed demand since the start of the war because of less summer demand, liquidation of poultry and livestock, uncertainty about OPA future, etc.

Walter Berger resigned June 1 as chief of the feed management branch of PMA in Washington. He was named president of the AFMA, and Ralph Field became secretary, and W. E. Glennon continued on the staff. Lloyd Riford, Beacon Milling, was elected chairman.

THE TAYLOR MILLING Corp., Los Angeles, was sold to Ralston Purina. . . . Pillsbury Mills formed

God Speed the Day

Feedstuffs commented editorially on the many changes made in the formula feed price regulation in 1945, as follows:

"Any one who has tried to mark up or paste up his original copy of MPR 585 to keep abreast of the changes cannot have anything but a mess on his hands and his files. He hardly knows where he is or what he is supposed to do, and he discouragingly concludes that when he does find out some more amendments will be issued and he will have to start all over again.

"Feed men are not and cannot be expected to be lawyers. Their fundamental purpose in business is to make and sell feeds, which are badly needed if sufficient food is to be produced.

"We are by no means criticizing price control, which on the whole has been successful and which we believe has been and is valuable insurance against an economic debacle. Neither do we intend to criticize the individuals in the grain and feed section of the OPA, who also, on the whole, have performed a difficult task in a capable manner. But such things as are cited in these comments do illustrate quite clearly, we think, that such attempts to regulate business life and prices are never more than patchwork jobs to meet an emergency, and that they constantly break down under the pressure of the necessary complexities of business affairs. The major by-product of price control always is likely to be confusion.

"The feed industry, we think, sincerely is trying to comply with OPA and other government regulations. It would be foolish not to do so. But there isn't an individual in it who doesn't say, 'God speed the day when all of these harrying and confusing arbitrary and unnatural rules and regulations can be filed away and forgotten!' They are not the worst experiences of the war, but they are unpleasant and unwanted."

a new feed and soy division, consolidating operations of its feed and soy plants. Clyde Hendrix was named to direct the division. . . . Purina announced the sale of its Denver Alfalfa Milling & Products division to a new company, National Alfalfa Dehydrating & Milling Co. The new firm also purchased other alfalfa firms. Floyd Wilson became chairman of the new firm, Fred Udell president. . . . The Acme-Evans Co. purchased the stock of Early & Daniel Co. . . . Burrus Mill & Elevator Co. announced plans for a $1 million feed mill at Fort Worth.

G. R. Peterson was appointed general sales manager of Pillsbury's feed and soy division. . . . Ray B. Bowden, executive vice president of the Grain & Feed Dealers National Assn., was presented with a gold watch in recognition of his work. The presentation took place at the group's 50th anniversary convention in Chicago. . . . Ora A. McCrea retired as manager of the Pillsbury millfeed department after 50 years service. . . . J. O. McClintock was elected president of the Chicago Board of Trade in a spirited campaign. . . . Warren B. Lambert was appointed sales manager of Kasco Mills, succeeding C. J. La Fleur, retired. . . . Fred Thomas was named director of formula feeds for General Mills. . . . Marian Brando left Calcium Carbonate Co. to become executive vice president of Chemical Feed Products Co., Chicago.

E. G. Cherbonnier resigned as vice president in charge of public relations for Ralston Purina to devote his time to the affairs of the new Foundation for American Agriculture. He was succeeded as public relations director by J. D. Sykes, previously manager of the general poultry and hatchery division of the poultry department. . . . W. D. Termohlen was named to head USDA's poultry division. . . . Leo T. Murphy was appointed vice president in charge of plant operations for Allied Mills. . . . Michel Fribourg became president of Arrow Mills, Houston. . . . W. D. McMillan, G.L.F., was elected chairman of the Feed Industry Council, a fact finding body. . . . J. H. Caldwell retired after 28 years with Purina. . . . A. Leal Bibbins, president of G.L.F. Mills retired. James A. McConnell, general manager of the G.L.F. Exchange, of which G.L.F. Mills is a division, took over as administrative head of G.L.F. Mills. . . . Dr. H. L. Wilcke left Iowa State College to join Purina. . . . Dean McNeal became deputy administrator of OPA. . . . E. G. Horst was named manager of feed sales for Calcium Carbonate Co. . . . H. V. Nootbaar resigned from Purina to enter business as H. V. Nootbaar & Co.

Deaths: Guay A. Thomas, Sr., chairman of the board of Colorado Milling & Elevator Co. and a director of Allied Mills; Fred C. Clutton, secretary of Chicago Board of Trade; Lloyd Hedrick, Ralston Purina Co.

v v

1947

One Set of Problems Is Replaced by Another

As 1947 began, Feedstuffs commented that "it is amazing how rapidly one set of troubles or worries is succeeded by another group." This was in reference to the fact that the industry no longer had the 1946 problems of price controls, black markets and maldistribution of supplies. There were more problems to come, though, and some tough ones.

Some people were afraid feed business would drop off after the big war peak, but, with good selling efforts, the outlook for 1947 was fairly good. It turned out that feed business was slack at first part of the year because of price readjustments and other factors, but industry leaders said pessimism wasn't justified in view of general prosperity, hog operations, etc.

In March there was a sensational jump in grain and ingredient prices, feeding was fairly heavy, and feed business picked up.

Grain and feed prices continued to climb as the government rapidly bought grains for export to help feed people overseas. High feed prices and fear of recession were causing chick orders to lag, and there were predictions of poultry and pork shortages in the fall because of liquidation. Feed supplies were adequate, but the big exports threw markets off.

Mid-year surveys showed the higher formula feed prices caused by sharp advances in ingredients hadn't caused widespread liquidations, and feeds were selling better than some had thought. Chick purchases picked up later with good egg prices, and the pig crop was up. Turkey production was down, though. Egg price support buying ended.

Drouth conditions followed earlier wet, cold weather, and with a small corn crop indicated and the continued export demand for grain, prices climbed even higher. This brought fears of lower feed sales to farmers who remembered their big wartime returns. But it was pointed out that balanced feeding could help stretch grain supplies.

THE GOVERNMENT opened food savings drives, urged farmers to feed stock to lighter weights.

Poultryless days were urged, but the feed industry pointed out that this would take more grain by holding birds on the farm. Instead there should have been culling of inefficient birds and saving of feed while maintaining adequate poultry and livestock population. Programs were presented to show how good rations could save feed. Finally, the government reversed itself on poultryless days and encouraged people to eat poultry. A heavy culling program was called for.

In the meantime, there were demands for price and allocation control's again. And the AFMA and others vigorously opposed any such move, noting that controls would cause maldistribution of supplies and hurt grain conservation programs if balanced ration supplies were limited.

In the meantime, feeding ratios remained generally favorable in spite of high feed prices, the predicted recession in business failed to develop, farm cash receipts showed a 22% gain over 1946 with volume of marketings about the same as the year before, and it turned out that the formula feed volume for 1947 was actually a little above the 1946 level.

OTHER DEVELOPMENTS: Alfalfa meal supplies were hurt by adverse weather, and prices rose sharply. . . . Linseed meal prices soared as farmers held back on flaxseed supported at $6. . . . Trade advice was ignored and a support program for turkeys was announced. . . . A cutback in pig crops in 1948 was asked.

The boxcar shortage was a continuing serious problem and harassed the trade, particularly during the Southwest grain movement. . . . The AFMA began its feed tonnage reporting service. . . . The molasses shortage continued, prices were high, and for a while distillers were outbidding the feed trade. . . . The AFMA established its agricultural service division. . . . Larry Wherry's book on the "Golden Anniversary of Scientific Feeding" was issued. . . . L. S. Riford was reelected AFMA chairman, and W. E. Glennon was named secretary. . . . Riboflavin and niacin prices were reduced with increased production. . . . Increased use of medicated feed brought advice to feed manufacturers to mix it carefully and watch regulations.

The Farmers & Merchants Milling Co. plant at Glencoe, Minn., burned, and plans were made for a new feed mill. . . . The Royal Scot Mfg. Co. was formed at East St. Louis by Francis L. Ferguson and associates. The new firm bought out the Alfocorn Mfg. Co. . . . Midland Feed Mill, Inc., opened a new mill at Marshall, Mo. . . . After bankruptcy proceedings, the Northwestern Distributing Co., Colby, Wis., was reorganized as Clark Mills. Later the property was sold to I. S. Joseph Co., Minneapolis. . . . Cargill, Inc., feed operations were consolidated, with Nutrena Mills retaining its identity as a subsidiary. R. E. Whitworth was made general manager of the division. . . . Central Soya bought the International Sugar Feed Co., Memphis. . . . Chas. M. Cox Co. acquired control of the Sheets Elevator Co. and G. E. Conkey Co., Cleveland.

Dannen Mills converted a flour mill at Red Oak, Iowa, into a feed plant. . . . Fire destroyed Aubrey's No. 2 mill at Louisville. . . . Arcady Farms Milling offered 96,000 shares of stock for public sale. . . . Ballard & Ballard, Louisville, planned a new feed mill. . . . Archer-Daniels announced an expansion program, including a flaxseed plant and feed mill at Kenedy, Texas. . . . G.L.F. stockholders voted to give up their tax exemption. . . . Valley Mills opened a new feed plant at Jackson, Miss. . . . Washington Co-op Farmers Assn. built a new mill at Tacoma.

T. R. Atchison, Ralston Purina Co., St. Louis, was elected chairman of the newly appointed executive traffic committee of the AFMA. . . . Henry H. Green, Pattonsburg, Mo., was elected president of the Grain & Feed Dealers National Assn. . . . C. J. LaFleur retired from Kasco Mills, Waverly, N.Y. . . . J. D. Sykes was elected a vice president of Purina. . . . Russell Eshelman was named to head the research department of Good-Rich Feed Mills, Winchester, Ind. . . . Lyman Peck began his feed research column in Feedstuffs. . . .

Ralph M. Field was honored at the AFMA convention after retiring following his long service, and he was presented with a car. . . . J. C. Hearn was elected president of National Alfalfa Dehydrating & Milling Co. . . . Dean McNeal was named to head the new business analysis department of Pillsbury Mills. . . . E. G. Cherbonnier was appointed feed consultant for the Grain & Feed Dealers National Assn. . . . W. E. Huge was named vice president of Central Soya. . . . Stanley W. Tyler became executive vice president of Beacon Milling. . . . Dr. Robert R. Spitzer became nutrition director for Murphy Products Co. . . . Clive Marshall left Allied Mills to join the Iowa Milling Co., Cedar Rapids. . . . John Mecking formed the J-M Trading Corp., Chicago. . . . Rudy Eschenheimer formed his own company to distribute vitamin products. . . . Albert Andreas retired from the Northwest Linseed Co. and was succeeded by D. J. Bunnell. . . . Samuel R. Harrell bought Goodrich Bros. Co., Winchester, Ind. . . . Marlon Brando and John M. Palmer formed the Brando-Palmer Sales Co. in Chicago. . . . Carl C. Farrington left PMA to join Archer-Daniels.

Deaths: Shreve M. Archer, Archer-Daniels-Midland Co.; George A. MacDonald, Quaker Oats Co.; Mell Wilkinson, Ashcraft-Wilkinson Co.; Philip R. Park, Philip R. Park, Inc.; Dennis B. Tilson, Kansas City feed distributor; Glenn H. Campbell, former secretary of PENB; Joshua M. Chilton, Archer - Daniels - Midland; Harry C. Schaack, Chicago; E. A. Talhelm, Crete Mills; C. C. Massie, Northrup, King & Co.

v v

1948

Price Break Leads To Better Conditions

Feed and grain prices were riding the crest of an inflationary wave at the start of 1948, following a prosperous year for agriculture which saw a boost in average farm prices of 20%. Livestock numbers had been cut back, however, because of fears of unprofitable feeding operations felt by farmers, and the feed industry outlook was not too bright in early 1948. The number of cattle on feed Jan. 1 was the lowest since 1940, and poultry numbers were off sharply.

The rapid price advance, accompanied by lighter meat supplies, led to a clamor for price controls and rationing, and much industry effort was directed toward heading off "the ghost of the OPA." Controls, its spokesmen said, would dislocate industry and bring back black markets. The proposal was eventually defeated in Congress.

In late January grain prices reached their postwar peak, and feed commodities were at all-time highs. Bran reached $85 at Minneapolis, linseed meal soared to $115, and soybean meal was just under $100 ton. Then came the now-famous February price break, when wheat and corn registered daily limit declines for several days. Feed trade came virtually to a standstill, and steep declines caused heavy inventory losses for

LOOKING FOR BUSINESS

A headline in the Sept. 21, 1946, issue of Feedstuffs said: "Feed Millers Again Soliciting Orders." The story went on to say that "feed business in this area is more nearly normal than it has been for several years, in that there is not a feed manufacturer who is not actively soliciting business."

many manufacturers and commodity handlers.

Cause of the sudden break apparently was the report of top economic observers that the end of the world cereal crisis was at hand, and traders foresaw a lessened demand for exports of U.S. grains.

The lower price levels ultimately led to a better business atmosphere for the feed industry. A big corn crop —the nation's first to top 3 billion bushels — plus other big grain harvests, encouraged more livestock feeding operations. The hog-corn ratio by October climbed to 18.7, and the USDA was asking for a 17% boost in hog farrowings the next year.

A declining trend in the number of chicks raised also was reversed near the end of the year, with broiler placements picking up sharply and prospects for a bigger laying flock at the end of the year apparent.

OTHER DEVELOPMENTS: The American Feed Manufacturers Assn. heard warnings against unsound merchandising practices and was urged to adopt the Feed Merchandising Council Plan which would eliminate bookings beyond 60 days. . . . AFMA also adopted a resolution calling for quoting all grain prices on a cwt. rather than a bushel basis. . . . Temporary freight rate increases of 25% were made permanent. . . . Interpretation of a Supreme Court decision in the Morton Salt Co. case indicated that direct sales of feeds to feeders at prices lower than those of dealers and unprovable quantity discounts were illegal.

The Chicago Board of Trade celebrated its 100th anniversary. The Commodity Credit Corp. charter bill was passed, establishing a status quo for CCC for 12 years. . . . A live virus vaccine to give four- to six-weeks-old chicks protection from Newcastle disease was announced by Dr. Fred R. Beaudette, Rutgers University. . . . Flaxseed crushers withdrew from the market for four months when flax went to $6 bu. . . . The industry requested a subsidy on linseed meal when the price averaged below $65 ton. . . . A six-week strike tied up six flour mills in Minneapolis in the fall.

AN EIGHT-STORY grain elevator and feed mill of Allied Mills, Inc., Ft. Wayne, Ind., was completed. . . . Town Crier Feed Stores, Inc., was organized to take over the retail feed stores of the Midland Flour Milling Co., Kansas City. . . . Matt Walsh and Shelly Walsh formed Walsh Grain Co. in Minneapolis. . . . Archer-Daniels-Midland Co. placed in operation in Minneapolis a $1,250,000 vegetable oil processing plant. . . . The feed manufacturing plant and elevators of Clark Mills, Inc., Colby, Wis., burned. . . . Central Soya Co., Inc., Fort Wayne, completed a $4 million expansion program with the erection of a soybean oil solvent extraction plant at Gibson City, Ill. . . . Fire hit the soybean and feed plant of Arkansas Mills, Inc., at Memphis. . . . Fire destroyed the soybean and livestock feed plant of Honeymead Mankato Co., Mankato, Minn. . . . Centennial Flouring Mills Co. purchased the Crown Mills, Portland, Ore. . . . A new $2 million Burrus feed mill north of Ft. Worth was completed.

The Northwest Linseed Co., Minneapolis, was acquired by Falk & Co., Pittsburgh, Pa. . . . Completion of a new feed manufacturing mill at St. Johnsbury, Vt., was announced by Ralston Purina Co. . . . The Des Moines (Iowa) Oat Products Co. was purchased by the Blatchford Calf Meal Co., Waukegan, Ill.

A new four-story feed plant of the Valley City Milling Co., Portland, Mich., was opened. . . . Ralston Purina Co. purchased the Miami (Fla.) Feed & Supply Co. . . . The Midland Feed Mill, Marshall, Mo., a subsidiary of the Midland Flour Milling Co., Kansas City, was sold to Hales & Hunter Co., Chicago. . . . The Beacon Milling Co., Cayuga, N.Y., purchased the Anderson Grain & Feed Co., York, Pa.

CLIFTON R. THOMSON was elected president, Royal Scot Milling Co., East St. Louis, Ill. . . . John R. Dwiggins, Dwiggins & Sons Alfalfa Milling Co., New Paris, Ind., was elected president of the American Dehydrators Assn. . . . Will A. Hall resigned as president and general manager of McMillen Feed Mills, Inc. . . . Fred W. Thomas was elected president of Central Soya Co., Inc., Fort Wayne, Ind. . . . Walter F. Sibley, Phelps & Sibley Co., Cuba, N.Y., was elected president of the Mutual Millers & Feed Dealers Assn. . . . Charles Van Horssen withdrew from active administration responsibility with General Mills, Inc., central division. . . . Cecil F. March joined Dannen Mills, Inc., as vice president in charge of the feed division. . . . Chas. B. Anderson, Great Falls, Mont., was named director of formula feeds for General Mills, Inc.

Deaths: Francis L. Ferguson, Royal Scot Milling Co., East St. Louis; C. A. Moorman, Moorman Mfg. Co.; Dr. John M. Evvard, Phoenix, Ariz., well known for his work in developing iodized salt; Charles A. Krause, Jr., Charles A. Krause Milling Co., Milwaukee; F. Schell, jobbing division, John W. Eshelman & Sons.

ABSURDITY TO END ALL ABSURDITIES

Commenting on the government request for poultryless days in 1947 to help save feed, Feedstuffs said editorially: "There are few (absurdities) in the record to equal the stubborn stand of the Luckman Committee and higher ups who obviously control its policies in regard to poultryless days. No one, to our knowledge, who is well qualified to advise on feed conservation problems or feed lot economics, has agreed that the poultryless days will save any grain. To the contrary, individual after individual, organization after organization close to and serving agriculture has stated emphatically to the committee and to the public that poultryless days defeat the grain saving objective by reducing the market for poultry. Birds that otherwise would be sold and eaten are kept on the farm where they must be fed. The situation is aggravated by the fact that this is the time of year when, normally, culling would be heavy and when turkeys—which already have consumed most of the grain needed to fit them for market —would be moving off the farms into distributing and consuming channels.

". . . Above all, everyone should recognize that the government's handling of this episode of the poultryless days is another graphic illustration of its inadequacy and bungling whenever it attempts to inaugurate regulatory and control programs without giving the deepest consideration to the counsel of those whose advice would be governed by long experience rather than by theory and impulse."

1949

More Progress Made In Selling Formula Feed

Some sharp adjustments in the farm economy developed during 1949, but on the whole they were on the favorable side—at least for the present—for the feed industry. Poultry and livestock production expanded sharply, encouraged by big supplies of feed materials, and the formula feed industry noted considerable progress in selling more farmers on the value of using its products.

However, the expansion of crops—both farm animals and grains—was not accomplished without headaches. Serious declines in egg and turkey prices by the end of the year projected a somewhat discouraging note into the following year's business outlook.

Building up grain surpluses, largely in the government's hands because of loan takeovers, was becoming a dominant market influence and one that brought both direct and indirect problems to feed men. Big supplies overhanging the market posed a constant threat to market stability; a sharp price break in February was evidence of the uneasiness. Meanwhile, big crops were produced under the stimulus of high price supports.

GOOD DEMAND for feed, meanwhile, resulted from a 29% boost in the turkey crop, a 23% increase in the number of cattle on feed, a boost in chick production of 25% in the first six months of the year and a 15% larger spring pig crop than in 1948.

Considerable optimism was evident among feed men at the American Feed Manufacturers Assn. convention, but this warning was sounded by the AFMA chairman, Fred W. Thomas, Central Soya Co., Inc.: "Use this opportunity or lose it." To maintain good business, he said, feed men must reduce costs, eliminate waste, work for sound credit and improve its products and sales methods.

OTHER DEVELOPMENTS: The largest gathering of feed men in history occurred at the first National Feed Industry Show in Milwaukee. . . . Repeated warnings were sounded at the Grain & Feed Dealers National Assn. convention that nationalization of the grain business is a serious threat. . . . The USDA ended all government grain allocations in July. . . . Pullet eggs sold at 30¢ doz. below No. 1 whites in October, finally dragged No. 1's down 16¢ in a week. . . . A shortage of soybeans in late summer pushed soybean meal to the $100 ton level. . . . Skidding dairy prices forced the government into butter supports. . . . Feed industry spokesmen urged Charles F. Brannan, secretary of agriculture, to support hog, poultry prices and egg prices at levels comparable to dairy supports.

In nutrition, the animal protein factor (APF) was the center of considerable research and feed industry interest.

WE HOPE NOT!

1
Way down South in the land o'cotton
Where folks can't live on price o'cotton
A hired man with a mule an' plow
Turns ev'ry third row under now.
2
No loss thereby is ever sensed
By the planter who is recompensed
He still owns the land on which to raise
A lot more cotton-when it pays!
3
Way up North where I was born
They shoot the hogs an' burn them corn
Prices thus are stimulated
And "depression" is somewhat abated
4
Uncle Sam doesn't mind a bit.
In fact, 'twas he suggested it
And whatever the farmer lost
He pays the farmer what it cost.
5
EVERY 3RD FEEDMAN'S HIDE
Now s'pose this plan was carried out
"To surplus" feedmen 'round about
One out of three in this position
Would surely lessen competition
6
And the widows thus bereaved
Could in this manner be relieved
Uncle Sam's substantial payment
Would buy a lot of gorgeous raiment!

YOU CAN CARRY IT TOO FAR—The efforts to cut back farm production in order to raise prices in 1933 were carried pretty far. In fact, Feedstuffs' cartoonist, in the Oct. 7, 1933, issue, speculated on what might happen if the program were carried even farther—to "surplus" feed men, for example.

PLANS FOR BUILDING a $400,000 "push-button" feed mill at Fairbury to replace the mill which burned in February were announced by Honeggers' & Co. . . . Archer-Daniels-Midland Co. announced plans for a soybean plant at Mankato, Minn. . . . The Glidden Co. built a $3 million soybean extraction plant in Indianapolis. . . . The Dixie-Portland Flour Co., Memphis, acquired the feed mill of the Mountain City Milling Co., Chattanooga, Tenn. . . . Construction was started on a $250,000 addition to the Merit Mills, Inc., plant at Oklahoma City. . . . Nutrena Mills, Inc., released for general use its "crumblized" trade-mark for poultry feed. . . . A research program was given strong backing at the American Dehydrators Assn. convention.

L. R. Hawley, vice president in charge of feed for Quaker Oats Co., Chicago, retired after 47 years. . . . Charles G. Robinson, Scruggs-Robinson Co., Memphis, was named G&FDNA president. . . . Ron Edstrom was named manager of the Northrup, King & Co. feed department. . . . Van D. Hodges was appointed manager of the Russell-Miller Milling Co. feed department. . . . Norman E. Dewes became assistant director of formula feeds in charge of sales, General Mills, Inc. . . . E. F. Dickey was named general sales manager and Erwin C. Wascher was promoted to assistant general manager of Honeggers' & Co. . . . Wiley Akins, Burrus Feed Mills, was chosen president of the Midwest Feed Mfrs. Assn. . . . K. M. Walters, formerly with Atkins & Durbrow, Inc., New York, became sales manager of farm feed division of E. F. Drew & Co., Boonton, N.J.

Dean M. Clark, Chicago, was elected secretary of the Illinois Feed Assn. to succeed E. F. Dickey. . . .

J. W. Banister was appointed sales manager of Pay Way Feed Mills, Inc., Kansas City. . . . Eugene L. Selders joined the Bates Grain Co., Kansas City, as a vice president.

Deaths: Charles R. Keiholtz, Kasco Mills, Inc., Toledo; Lyman Peck, feed

consultant and contributing editor of Feedstuffs; John H. Peek, Percy Kent Bag Co., Buffalo; Walter F. Lindeman, M. J. Neahr & Co., Chicago; Van Roy Miller, Nutrena Mills, Inc., Kansas City; Harry C. McAdams, Harry C. McAdams Co., Chicago; Francis P. Whiting, United Distributing Co., Minneapolis.

1950

Korea, Antibiotics, More Shortages Highlight 1950

It was hard to tell whether it was Korea, or antibiotics or certain ingredient shortages which hit the industry with the most force in 1950. At any rate, there were a number of important developments.

The outbreak of war in Korea was an indication of things to come in the way of government regulations, but with feed supplies generally large, controls were not wanted and it was felt they were not needed immediately, anyway. Legislation was passed providing price control authority, but curbs were not placed on farm commodities or feeds in 1950.

The effects of antibiotics in promoting growth were announced, and the feed industry had another new field opened up to it. After some discussion and some words of caution from official sources, antibiotic labeling was clarified by control officials. Also, vitamin B_{12} supplements, previously called APF supplements, were defined.

Results with arsonic acid also were brought out, and altogether, the feed industry was finding itself with more complex, though more powerful, feeds.

Soybean meal shortages plagued the industry, and there was a sharp run-up in prices at mid-year as some processing plants closed. Phosphorus also was short after the TVA halted dicalcium phosphate production, but industry was expanding phosphorus production. A molasses shortage boosted prices and limited use of that ingredient.

THE WAR CAUSED some feed ingredient price boosts, but the only real shortages were those not resulting from the war.

Cobalt was placed under allocation control late in the year.

Late in the year, Lloyd S. Riford of Beacon Milling Co. and Dr. L. C. Cunningham of Cornell University were appointed to formulate plans for feed price controls when and if needed.

As the year opened, some low egg and poultry product prices troubled feed men, and some feared prolonged slower business. However, increasing production of certain animal products and continued high consumer incomes were cited in a generally good outlook.

The number of chickens raised on farms dropped because of unfavorable egg-feed ratios, and the government continued dried egg purchases. But cattle numbers were up substantially, a record turkey crop of 44.5 million was being raised, pig crops showed another gain, and broiler production was growing. Also, most feeding ratios were fairly good most of the time, and feed business showed at least some further gain.

In general an optimistic note was sounded at the AFMA convention, with continued industry growth forecast. The important new AFMA movie, "The Growth of a Nation," had its premiere at the meeting. Thomas W. Staley, Staley Milling Co., Kansas City, was elected AFMA chairman.

The first real industry effort to improve standards of formula feed production in the increasingly technical industry was made in the opening production school sponsored by the Midwest Feed Manufacturers Assn.

OTHER DEVELOPMENTS: Secretary of Agriculture Brannan continued to press for his farm plan. . . . Basic commodity price supports were set at 90% of parity. . . . The boxcar shortage brought inclusion of Saturday and Sunday in figuring demurrage. . . . December storms in the East caused poultry industry losses of $1 million.

The use of APF supplements meant greater use of vegetable protein in feeds. . . . Dealers were rapping direct manufacturer sales to farmers. . . . Modern feeds for ruminants were developing. . . . Bulk feed was increasing in some areas.

Ralston Purina announced plans for a mill at Macon, Ga. . . . Pillsbury Mills, Inc., dedicated a new plant at Lima, Ohio. . . . Archer-Daniels-Midland Co. combined its Archer feeds division with Mankato (Minn.) Mills, also a part of ADM. P. O. Kimble was named to head the division. . . . Purina planned a new feed mill at Richmond, Ind. . . . Larabee Sunfed Feed Mills, Wellington, Kansas, began work on a new plant to replace the mill destroyed by fire.

Peter Hand Brewery, Chicago, acquired the Key Products Co., Fort Wayne, Ind., maker of vitamin and mineral supplements. . . . Batcheller's and the Sioux Falls Milling Co., Sioux Falls, S.D., merged. . . . Purina opened a new mill at Bloomington, Ill. . . . Albers Milling Co., Los Angeles, bought Spear Mills, Inc., Kansas City. . . . Harper Feed Mills bought an idle Buffalo plant from Russell-Miller Milling Co. and converted it to a feed plant. . . . The Mississippi Valley Grain & Feed Co., Muscatine, Iowa, announced plans for a new plant.

Lloyd S. Riford was named chairman of the board of Beacon Milling Co., and Stanley W. Taylor was elected president.

Dr. R. M. Bethke of the Ohio Experiment Station became vice president in charge of research for Ralston Purina Co. . . . Frank T. Heffelfinger, II, was named general manager of King Midas Feed Mills, Minneapolis. . . . Wiley Akins was named vice president in charge of feed operations for Arrow Feed & Oil Corp. . . . Dr. R. T. Parkhurst joined Lindsey-Robinson & Co., Roanoke, Va.

E. F. Morris was named to head Harry McAdams Co., Chicago. . . . Paul Q. Card was named director of farm feed sales division of Flavor

(Continued on page 167)

Because we give the finest possible service to the formula feed industry in the major protein supplements with assurance of the highest quality.

SPENCER KELLOGG AND SONS, INC.
BUFFALO 5, N. Y.

SPENCER KELLOGG MEAL SALES OFFICES ARE LOCATED AT:
Buffalo CL 9850
Chicago FR 2-3437
Decatur 5365
Des Moines 4-7291
Long Beach 67-9530
Minneapolis AT 0309
Philadelphia PE 5-8787

Spencer Kellogg Mills are located at: BUFFALO, N. Y., ● BELLEVUE, OHIO, ● CHICAGO, ILLINOIS, MINNEAPOLIS, MINN., ● EDGEWATER, N. J., ● DECATUR, ILL., ● DES MOINES, IOWA, ● LONG BEACH, CALIF.

ALL FEED INGREDIENTS
Eugene L. SELDERS CO.
"The Polka Dot Folks"
BOARD OF TRADE
KANSAS CITY 5, MO.
Victor 4004 thru 4009
Protein & Alfalfa TWX-KC20
Millfeeds, etc. TWX - KC126

Sell — Use — Feed
HI • MO • LASS
Contains 42% or More Sugars
DOANE FEED PRODUCTS CO.
Board of Trade Bldg., Kansas City, Mo.

For feeds that better serve their needs

DR. SALSBURY'S POLYSTAT

Revolutionary NEW FEED ADDITIVE

Helps poultry raisers:

. . . prevent coccidiosis

. . . prevent worms

(tapeworms and large roundworms)

. . . prevent hexamitiasis

(in turkeys)

and stimulate growth

(in both chickens and turkeys)

No other single feed additive provides *all* these benefits!

POLYSTAT is the result of extensive product development research by Dr. Salsbury scientists. Authoritative field and laboratory tests on thousands of birds prove POLYSTAT to be effective, palatable, safe, practical and profitable.

POLYSTAT CUTS DEATH LOSSES due to coccidiosis; aids in the prevention of large roundworms and tapeworms, and hexamitiasis in turkeys.

POLYSTAT STIMULATES GROWTH even with Vitamin B_{12} and Antibiotics in the feed. Improves feed conversion. Promotes 9.6% faster growth on ¼ pound less feed, per pound of live weight, on the average! Improves quality: redder combs, yellower skins, better feathering. Pays for itself!

POLYSTAT SIMPLIFIES YOUR MEDICATED FEED SERVICE PROGRAM—just this one product provides four benefits that reduce the amount of flock service required!

POLYSTAT IS EASY TO MIX—blends evenly with other feed ingredients. Take advantage of this new development. Offer feed containing POLYSTAT. Send for prospectus. POLYSTAT can be sold interstate without filing papers with the Federal Food and Drug Administration.

With the introduction of POLYSTAT you can now satisfy most major medicated feed requirements with a Dr. Salsbury product.

You will want to continue to offer feed containing:

Dr. SALSBURY'S NITROSAL and Dr. SALSBURY'S 3-NITRO Powder

For growth benefits plus coccidiosis prevention

Nitrosal stimulates poultry growth. Improves feed conversion. Helps produce better quality birds. Nitrosal also prevents costly losses due to coccidiosis.

For growth benefits without coccidiosis prevention

3-Nitro provides the same poultry growth benefits as Nitrosal, *without* coccidiosis prevention. 3-Nitro also helps *hens* lay up to 12 extra eggs per hen. Helps *hogs* grow 27% faster on 14% less feed per pound of gain.

Users of 3-Nitro protected by patent rights

The use of 3-Nitro 4-hydroxyphenylarsonic Acid (3-Nitro) in poultry feed or drinking water in the effective, non-toxic range of from 0.5 p.p.m. to 360 p.p.m. is covered by the claims of Patent No. 2,450,866, assigned to the Dr. Salsbury's Laboratories.

Those who purchase products containing 3-Nitro from Dr. Salsbury's Laboratories, are free to use them according to directions or incorporate them in products which are used to provide feed concentrations of 3-Nitro in the range cited, and avoid Section 271 (b) of the patent statute—which states, "Whoever actively induces infringement of a patent shall be liable as an infringer."

DR. SALSBURY'S LABORATORIES Charles City, Iowa

recommend, promote and profit from Dr. SALSBURY'S ***complete line of poultry medicines***

☆ Classified Ads ☆

Classified advertisements accepted until Wednesday each week for the issue of the following Saturday.
Rates: 15¢ per word; minimum charge $2.25. Situations wanted, 10¢ a word; $1.50 minimum. Count six words of signature, whether for direct reply or keyed care this office. If advertisement is keyed, care of this office, 20¢ per insertion additional charged for forwarding replies.

Classified advertising rate not available for commercial advertising. Advertisements of new machinery, products and services accepted for insertion at minimum rate of $9 per column inch.
All Want Ads cash with order.

MACHINERY FOR SALE

WHIRLAWAY AIRBLAST CAR LOADERS. J. E. Hagan Mill Machinery, Jefferson City, Mo.

SPROUT-WALDRON 18" BUCKET ELEVATOR 40' centers complete with head and boot. Unused. $2,000, f.o.b. Deposit. Delaware Mills, Inc., Deposit, N. Y.

FOR SALE—50 H.P. MOTOR CONNECTED direct with Blue Streak Hammermill, complete operating condition. Price $400. Lowell King, Murray, Ky.

ONE TON KELLY DUPLEX MIXER, excellent condition with starter, Westinghouse 5 H.P. motor. $350, f.o.b. Iowa location. J. C. Kintz Co., Cedar Rapids, Iowa.

SPROUT - WALDRON 30 H.P. PNEU-VAC Air Conveying System. $2,500. Subject to inspection our plant. O. W. Meyer, Napoleon, Ohio.

WHEN YOU ARE IN THE MARKET FOR new or used mill machinery, electric motors or any other equipment, write J. E. Hagan Mill Machinery, Jefferson City, Mo.

FEED MIXER, 1-TON CAPACITY, guaranteed first-class throughout, 5 H.P. motor drive. Address #774, Feedstuffs, Minneapolis 1, Minn.

WRITE US, WE HAVE WHAT YOU NEED in supplies for feed and flour mills. If it's new or used, buy it from Hughes, Wayland, Mich.

FOR SALE—NO. 6A BLUE STREAK MILL with heavy duty large fan reconditioned and guaranteed for use with 75 or 100 H.P. motor. Will make good deal. Write or phone G. E. Wadington, 2300 Fourth Ave. S.E., Cedar Rapids, Iowa.

FOR SALE — 2,000-LB. HORIZONTAL batch mixers, pellet cooler, 2,500 bu./hr. grain cleaner; Richardson automatic grain and soft feed scales; Union Special sewing machines; steel elevator legs; steel conveyors; complete dehydrating plant; 20 to 100 H.P. hammermills. J. E. Hagan Mill Machinery, Box 574, Jefferson City, Mo.

Limited Quantity
TOTALLY-ENCLOSED MOTORS
at less than open motor prices
all 220/440 Volt—60 Cycles—
3 phase

H.P.	1,800 R.P.M.	1,200 R.P.M.
1	$51.00	$60.00
2	60.00	77.00
3	77.00	92.00
5	92.00	126.00
7½	126.00	151.00
10	151.00	192.00
15	192.00	288.00
25	296.00	341.00
30	341.00	438.00
40	436.00	
50	510.00	
60	635.00	

ALL STANDARD MAKES—REBUILT —BALL BEARINGS—NEMA FRAMES —NEW MOTOR GUARANTEE
For Further Information Write or Phone 2-4710
THE LIMA ARMATURE WORKS, Inc.
142 East Pearl St. Lima, Ohio
"Over 30 Years of Continuous Service to the Feed and Milling Industry"

Hammermills

USED—AS IS—$100.00 EACH
3 No 182 Bauer
2 No. 17 Ajax Jacobson
1 Capec

USED—IN OPERATING CONDITION
3 No. 416 Bauer .....$400 ea.
1 3SW Jay Bee $500
2 No. 17 Ajax Jacobson $300 ea.

REBUILT
1 No. 416 Bauer $900
1 3UX Jay Bee $550
1 3SW Jay Bee $700
1 3S Jay Bee $700
2 No. 17 Ajax Jacobson $550 ea.

NEW
1 3UX Jay Bee $900

Write for quotation on any of above "used, as is mills" rebuilt and guaranteed. A large stock of rebuilt motors available. Prices f.o.b. Lima, Ohio.

The Lima Armature Works, Inc.
142 East Pearl St., Lima, Ohio
"Over 30 Years of Continuous Service to the Feed and Milling Industry"

MACHINERY FOR SALE

GOOD USED STEEL ELEVATOR LEGS 80' to 135' complete with belt, cups, head drives. W. L. Coleman, Manly, Iowa.

26" SPROUT-WALDRON ATTRITION MILL with 30 H.P. motor, one ton horizontal molasses mixer, 3 bu. automatic scale. W. L. Coleman, Manly, Iowa.

FOR SALE—USED NO. 50 BLUE STREAK Hammer Mill with blower and assortment of screens. Usable condition. Priced very reasonable. Fasco Mill Products, Mendota, Ill.

FOR SALE—NO. 5A BLUE STREAK MILL in good condition. Can furnish with 60 H.P. motor or without. Priced right. Mr. Jon Lingard, 1022 North Mingo, Albion, Mich.

FOR SALE — A-1 CONDITION SPROUT-Waldron 26-inch Attrition Mill, complete with two 30 H.P. motors. In daily operation. See it. Write Kark Milling Co., Kensett, Iowa.

FOR SALE—20 DRAVER FEEDERS, USED one year. High Speed Thayer Bagging Scale. Gump High Speed Mixer and other machinery. Write Harold N. Simpson Co., Box 397, Wheaton, Ill., or phone Wheaton 8-0589 when at the AFMA Chicago convention.

MACHINERY WANTED

WANTED—BULK BUGGY. PREFER 1,000 lb. scale mounted buggy. What have you? Write Kark Milling Co., Kensett, Iowa.

WANTED — SEVERAL MASTER MODEL California Pellet Mills. Sabetha Machinery Co., Sabetha, Kansas.

WANTED TO BUY—ONE NO. 8 JACOB-son Hammermill, with or without motor. Address 796, Feedstuffs, Minneapolis 1, Minn.

WANTED TO BUY — RICHARDSON scales, bag closing machines and other good mill, feed and elevator equipment. J. E. Hagan Mill Machinery, Jefferson City, Mo.

HELP WANTED

WANTED SALESMEN — LARGE AND prominent feed manufacturer desires services of three feed salesmen. Must be well experienced and preferably have acquaintance in Arkansas, Louisiana or Texas. Liberal proposition for right men. All replies kept confidential. Address 795, Feedstuffs, Minneapolis 1, Minn.

SALESMEN — DISTRIBUTORS IN MICHI-gan, Pennsylvania, Indiana, Maryland, New York to sell Phenosalt, the nationally advertised sheep and cattle self feed worm control product. Good seller and repeater with liberal commissions. Write sales manager: Dr. Heinz Co., Washington C.H., Ohio.

SALESMEN WANTED BY PROMINENT, fast growing feed mill machinery manufacturing firm on an exclusive territory basis to work in Florida, Georgia, Alabama, Louisiana, Mississippi, Missouri, Kansas and California. Must have experience and ability in millwright and mechanics. Address 738, Feedstuffs, Minneapolis 1, Minn.

SALES PROMOTION — SALES SUPERVI-sion—A growing Midwest feed firm with progressive ideas wants a man for sales promotion and sales supervisory work. The man we want is likely working somewhere in the sales department of a major feed manufacturer having had a period of successful selling experience. He likes the feed business but is looking for an opportunity to make more rapid progress. Send statement of background, experience, abilities and salary expected. Address 799, Feedstuffs, Minneapolis 1, Minn.

EXPERIENCED FEED SALESMEN—SAL-ary, expenses, car furnished and unlimited bonus arrangement. Complete line of formula feeds, concentrates, minerals, specialties and ingredients to sell. Highly advertised and strongly promoted line with one of the best known concerns in American agriculture—Swift & Co. Write full particulars, giving age, experience, education and snapshot. You can make your permanent career with this fast-growing department. General Feed Department, Swift & Co., U. S. Yards, Chicago 9, Ill.

BABY CHICKS FOR SALE

BABY CHICKS—AS HATCHED OR SEXED —Five popular breeds and one hybrid. Quality - Quantity - Service. Wholesale prices. Milford Hatchery, Liberty Road, Randallstown, Md.

Buy and Sell
through
WANT ADS
—in—
FEEDSTUFFS

SITUATIONS WANTED

YOUNG NUTRITIONIST AND GENERAL sales manager desires change. Graduate of Iowa State College with four years' vocational agriculture work. At present handle 10 salesmen for a large company. Address 807, Feedstuffs, Minneapolis 1, Minn.

DO YOU HAVE AILING TERRITORIES? Or salesmen who are "slumping" or rich potential spots which do not seem to produce real results? I have wide experience, excellent contacts, honesty and ability. Minimum salary $10,000. Address 797, Feedstuffs, Minneapolis 1, Minn.

BUSINESS OPPORTUNITIES

FOR SALE—RETAIL FEED STORE IN southern California, at inventory cost. Established 16 years same location. Address 803, Feedstuffs, Minneapolis 1, Minn.

FOR SALE—OPERATING RETAIL FEED store, northern New England. Siding. Franchise. Address 764, Feedstuffs, 114 E. 40th St., New York 16, N. Y.

FOR SALE OR RENT — FEED MANU-facturing plant, complete with pellet mill, molasses mixers, etc. Capacity 100 tons per day. Located in Sioux City. Write P.O. Box 1251, Sioux City, Iowa.

FEED, SEED, FERTILIZER AND PRO-duce business in large building. Grinding, mixing, seed cleaning and treating, $50,000 to $60,000 per year. Selling on account of health and age. Box 191, Burlington Junction, Mo.

FOR SALE—FEED BUSINESS, 50 MILES north of Denver, Colo., in heart of irrigated country. Modern building, machinery and attached small capacity elevator. Address 634, Feedstuffs, Minneapolis 1, Minn.

Fine Business Opportunities
FEED MILLS and ELEVATORS
We Can Help You When You Want to Buy or Sell Your Business
Phone or Write
MID-WEST BUSINESS EXCHANGE
Halbert C. Smith Plymouth, Ind.

EXCLUSIVE TERRITORY
NON-COMPETITIVE ITEMS
To qualified salesmen or brokers with Feed Mill and Processor following.
A COMPLETE LINE OF
AROMATIC FLAVOR LURES for FEED and MINERAL ADDITIVES
Give qualifications in first letter. Strictly commission.
Address 795, Feedstuffs Minneapolis 1, Minn.

New Arkansas Grain, Seed Plant Completed

MEMPHIS, TENN. — The Alice-Sidney Dryer & Seed Co. recently completed a grain drying and seed treating plant at Jerome, 15 miles northwest of Lake Village, Ark.

The structure of reinforced concrete and steel was designed and built by the Hawthorne Co. of Houston, Texas, at a cost of about $500,000. The building has a storage capacity of 267,000 bu. of grain.

T. R. Godsey, manager of the plant, said the new plant has 120 individual storage compartments equipped with an electronic hot spot detector system, enabling the temperature of each bin to be registered individually on a panel in the office so that it is known at a glance.

Hangar to Hold Grain

TILLAMOOK, ORE.—A blimp hangar at Tillamook (Ore.) Naval Air Station has been secured for storage of about 300,000 tons barley, according to the Tillamook County Airport Commission.

County officials said it will mean about a $1,000,000 annual income to the county. Storing will begin June 1.

Ralph Van Hoven

Renderers to Solicit New Product Ideas

CHICAGO—Three awards totaling $900 have been established by the National Renderers Assn. to recognize and encourage the development of suggestions for possible new uses for animal by-product proteins (meat scrap and tankage).

Ralph Van Hoven, chairman of the protein committee and vice president of the NRA announced that the first award will be $500, the second $300 and the third $100.

Each contestant must submit a paper describing suggestions for possible new uses for animal by-product proteins. These suggestions may be based on laboratory research of the contestant and/or on suggestions arising from review of literature or other sources of information and/or from creative imagination.

The awards are open to any individual in the U.S. who is engaged in graduate study in chemistry or chemical engineering. An application must be submitted by each contestant and be approved in writing by the head of the department of the university in which he is pursuing graduate study. Contest applications must be filed with the NRA prior to November, 1955. Blank forms may be obtained from the NRA office at 30 North LaSalle St., Chicago 2.

Four typewritten copies of the paper to be entered must be submitted prior to July, 1956, and selection of award winners will be made by a committee of three judges: Dr. H. R. Kraybill, director of the American Meat Institute Foundation, Chicago; Dr. Max H. Thornton, director for chemical sciences at the Midwest Research Institute, Kansas City; W. Milton Hendrixson, nutritionist of Provico Feeds & Concentrates, Cincinnati.

General Mills Names Tampa Branch Manager

TAMPA, FLA. — C. W. Jenson, formerly of Minneapolis, has been appointed manager of the Tampa branch of the feed division of General Mills, Inc. He succeeds Emmett McGriff, who has been named beef cattle specialist for the Florida area and Cuba.

Mr. Jenson has been district manager of General Mills' North Central farm service stores.

Mr. McGriff will continue to make his headquarters in Tampa at 2910 Coachman St.

Hollander Visits Plants

KANSAS CITY—Dr. M. Jansen of Nederlandsche Spiritusfabriek, Bergen, Holland, visited a number of molasses processing plants recently in Joplin, Kansas City, Des Moines and Chicago. Dr. Jansen continued on to New York and Philadelphia.

QUARTER CENTURY IN THE FEED BUSINESS

(Continued from page 164)

Corp. of America, Chicago. . . . Dr. J. L. Krider, University of Illinois, became director of research for McMillen Feed Mills. . . . Dr. H. S. Wilgus, Colorado A&M College, joined the Peter Hand Foundation, Chicago. . . . Searle Mowat resigned as president of the Larrowe division of General Mills; F. E. La Shelle, Jr., became president. . . . John K. Westberg was appointed to head the feed department of International Minerals & Chemical Corp.

A. G. Philips retired as general sales manager of Allied Mills, being succeeded by Ed. Griffin. . . . Dr. H. Ernest Bechtel, General Mills, Inc., was elected chairman of the AFMA Nutrition Council. . . . Charles G. Robinson was reelected president of the Grain & Feed Dealers National Assn.

Deaths: Woodson K. Woods, Ralston Purina Co.; Ralph Hedges, Columbian Hog & Cattle Powder Co., Kansas City; Kamil D. Eddie, Superior Feed Mills, Inc., Oklahoma City; Allen B. Schreiber, Sr., Schreiber Mills, Inc., St. Joseph, Mo.; Robert T. Beatty, Feedstuffs; Fred Wilkinson, former treasurer for Kasco Mills, Toledo; Harry E. Halliday, St. Louis broker; E. L. Daniel, Early & Daniel Co., Cincinnati; J. F. Weinnmann, J. F. Weinnmann Milling Co., Little Rock, Ark.; G. H. Simpson, Acme Feeds, Inc., Forest Park, Ill.

v v

1951

They Were Saying: "Here We Go Again"

The impact of the Korean war on the feed industry was felt strongly in 1951. Price controls were slapped on, and shortages of various ingredients troubled the trade.

However, the strong economy and substantially increased numbers of poultry and livestock, along with favorable feeding returns, contributed to another gain in formula feed use. Production rose to a record 32.8 million tons.

Soon after the first of the year the General Ceiling Price Regulation froze prices and created no end of confusion. A pass-through provision was provided for processors or distributors of farm commodities. Later a supplementary order was issued for formula feed which permitted increases in ceilings to reflect total ingredient value. This also relieved a squeeze in pricing out soybean meal. Wholesalers and retailers were authorized to reflect increases in suppliers' ceilings.

Through the year there were succeeding amendments, supplements and interpretations affecting various feed ingredients. The margin-over-cost principle was present in a soybean order, and some feared it might be applied to the feed regulation. An interpretation requiring absorption of freight rates was removed after much struggle. There were demands late in the year to raise the soybean meal ceiling above $74.

DINSMORE WORTHING, Chas. M. Cox Co., took over as feed price chief, and later John Zipoy, Pillsbury, had the job.

Niacin, choline chloride and cobalt were in short supply because of the defense program. Molasses also was limited. And then later in the year the worst protein pinch since World War II days plagued the industry.

Feed supplies were generally adequate for the current season, but a close balance and possibly some tight supplies were indicated later.

OTHER DEVELOPMENTS: Problems connected with controls drew the biggest crowd in history to the AFMA meeting, where the ceiling method of fighting inflation was condemned. . . . Various factors brought a spectacular boost in millfeed prices in the spring. . . . Severe floods in the Kansas-Missouri area crippled alfalfa operations, forced many feed plants to shut down; in Kansas City feed industry flood damage was estimated at $1 million. . . . Synthetic sow's milk was introduced. . . . Staley Milling, Kansas City, used one of the early TV programs in advertising feed.

The Grain Processing Machinery Manufacturers Assn. was formed and helped in getting materials for machinery, supplies of which were tightening for feed firms. . . . The feed technology school at Kansas State was assured as the industry raised funds for a building. . . . There were strong warnings against continued unsound feeder credit. . . . Soybean meal futures trading started at Chicago. . . . Fifty-pound cotton bags were promoted.

Joseph Chrisman, Cerophyl Laboratories, Inc., Kansas City, was elected president of the American Dehydrators Assn. . . . Lloyd S. Larson was named executive secretary of the American Dehydrators Assn. . . . John F. O'Donnell was elected president of the Triangle Milling Co., Portland. . . . G. Elden Simpson was elected

"SNOW-FLAKE"
OYSTER SHELL

WHAT'S AHEAD
WHAT'S DOING
IN YOUR INDUSTRY ?

Be always in front of things. Get twice each month a 4-page, fact-packed DIGEST of top trade news, trends, sales prospects and feed outlooks.

Also Get Twice Every Month a highly informative report on a timely feeding and industry matter, important to feeders and feed sellers. Most big firms and hundreds of dealers take these 12-year-old services.

You must SEE and TRY them to realise their value and helpfulness.

1 MONTH'S SERVICE FREE
2 Flash Issues & 2 Reports

Just tear out and mail this ad with name and address. No cost, no obligation. Do it NOW.

National Feed Merchandising Council
5222 Cumnor Road, Downers Grove, Ill.

Standard steel elevators, belt and bucket type, available from stock. Ten Heavy Duty sizes, from 300 to 10,000 Bu/Hr., for continuous service and four Light Duty sizes, from 110 to 750 Bu/Hr., for intermittent service. We also manufacture screw conveyors and hoppers. Send your requirements for complete information.

GODSHALK
Sheet Metal Fabricators
BANGOR, PA.

FIRST

FIRST
Mill in Yucatan to package baler & binder twine in paper bags.

FIRST
In volume in manufacturing and exporting agricultural twines from Yucatan.

FIRST
And only automatic controlled emulsion department.

FIRST
And only mill in entire twine industry, foreign or domestic, with their own silk screen printing equipment for marking bags and collars.

FIRST
And only mill in Yucatan with its own independent union to assure quality and steady production.

FIRST
In setting up new form of distribution of agricultural twine through appointed distributors exclusively, who sell only to dealers.

a product of
HENEQUEN INDUSTRIAL, S. A.
MERIDA, YUCATAN, MEXICO

for your nearest distributor contact
MIDWEST CORDAGE CO., INC.
Box 444, FAYETTE, MISSOURI Phone 666

We also distribute American Steel & Wire Products. Contact us for carload prices and delivery for all styles automatic baler wire and bale ties. Shipments made by truck or rail. We do not ship wire to Nev.—Calif.—Ore.—Wash.—Idaho or Utah.

MIXED, COMPRESSED FEED IN 1866

The feed manufacturing industry really isn't as new as is sometimes thought. At least, it had some beginnings back in the 19th century.

The year 1875 has been assigned as the probable start of feed manufacture in the U.S., when John W. Barwell of England established a plant in Chicago and later in Waukegan, Ill. This is the Blatchford Calf Meal Co. of the present. However, a bit of history reported in the April 14, 1951, issue of Feedstuffs tells of the registering of a patent idea for "an improved compound for feeding stock" in 1866.

The files of the patent office show that Charles G. Otis of Troy, N.Y., reported inventing "A New and Improved Concentrated Pressed Feed for Stock." "The improvement," he said, "consists in a combination of farinaceous and oleaginous matters in certain proportions, and compressed into water and vermin-proof packages for transportation. The object is by the ingredients of the compound — namely, ground oats and corn, with a small amount of oil or flaxseed meal — to afford a less weighty but more nutritious ration for horses and mules; and, secondly, by the mode of packing, to protect the feed from the ordinary casualties which attend its storage and transportation to distant parts."

president of Acme Feeds, Inc., Forest Park, Ill. . . . The A. E. Staley Mfg. Co. named Paul R. Ray as manager of the soybean division. . . . Earl J. Brubaker was named general manager of the soy and feed supplements departments of the special products division, the Borden Co. . . . E. T. Cashman was named manager of the formula feed division of the Archer-Daniels-Midland Co. . . . J. E. Nelson, manager of the animal feed sales department, Armour & Co., Chicago, retired. . . . Wallace H. Hinkle and Paul E. Blodgett were elected vice presidents of the Faultless Milling Co., Springfield, Ill. . . . R. D. Booth, Piper Grain & Milling Co., Cedar Rapids, Iowa, was elected president of the Grain & Feed Dealers National Assn.

Louis C. Stevenson was named general feed sales manager for Ralston Purina. . . . Fred P. Hughes was appointed vice president in charge of the formula feed division of the Kansas Milling Co., Wichita. . . . Dr. J. L. Krider was appointed vice president and director of feed sales of McMillen Feed Mills. . . . Loren V. Burns was named to head the new feed technology program established at Kansas State College.

Earl C. Corey was named chief of the grain price section in ESA. . . . Dr. O. Burr Ross joined Gooch Feed Mill Co. . . . Dr. C. D. Caskey, Cooperative Mills, was elected chairman of the AFMA Nutrition Council. . . . Homer Huntington retired from PENB and was succeeded by Don Lyon. . . . James C. Fritz joined Dawe's Mfg. Co.

Ralston Purina Co. announced a $1 million feed mill in Delmar, Del. . . . The Beacon Milling Co. announced plans to build a $1 million formula feed plant at Laurel, Del. . . . The purchase of Ballard & Ballard Co., Louisville, by Pillsbury Mills, was announced. . . . Waldo Alfalfa Mills, Lamar, Colo., was purchased by National Alfalfa.

The Rooster Mills Co., Dubuque, Iowa, was purchased by James H. Seley of Los Angeles. . . . Bowman Feed Products, Inc., New York, was organized. . . . Russell-Miller Milling Co. acquired the feed operations of Northrup, King & Co. . . . Valley Mills, Jackson, Miss., was purchased by Purina Co. . . . The merger of Nutrena Mills, Inc., Minneapolis, and Royal Feed & Milling Co., Memphis, was announced. . . . Archer-Daniels-Midland Co. purchased the W. J. Small Co. . . . The Happy Mills Division of the Arrow Feed & Oil Co., Inc., acquired the facilities of L. P. Cook & Son, Memphis. . . . Purina announced plans for a plant at Spokane. . . . Fire destroyed the Jacob Rubinoff Co. mill at Vineland, N.J. . . . Purina bought Merit Mills, Oklahoma City. . . . Maritime Milling Co. bought a plant at Seaford, Del. . . . Hales & Hunter Co. bought a plant at Lexington, Ky.

Deaths: John Haberkorn, Viking Laboratories, Des Moines; Edmund P. Pillsbury, vice president, Pillsbury Mills, Inc., killed in plane crash; J. C. Crouch, Dallas; A. F. Seay, former vice president, Ralston Purina; William C. Pratt, president, W. C. Pratt Co., Inc., Chicago; Charles A. Krause, Chas. A. Krause Milling Co., Milwaukee; E. M. Putney, Ralston Purina.

v v

1952

Price Controls Plague Industry; Sales Bulge

While the feed industry in 1952 struggled with price controls and difficulties in getting protein supplies which resulted from unrealistic ceilings, it chalked up another record tonnage of 34.4 million tons.

A big boom in broiler production early in the year resulted in some disastrous price breaks during May, but by the end of the year production had settled down to a more stable level. Turkey production also shot up, and government price support buying was necessary to help bail the industry out. Fewer young chicks were raised, but egg markets were fairly satisfactory and feed sales reflected this situation. Hog production continued to swing down and wound up 10% below the year before, but the number of cattle on feed was up 11%.

The bigger tonnage did not necessarily reflect bigger profits for manufacturers, however, because of credit losses in broiler and turkey financing.

Soybean meal processors were placed in a squeeze by price ceilings on meal and a low oil market, and for much of 1952 manufacturers used meal "mixes" containing corn or minerals which were offered as a way out of the ceiling problem. Later, when meal ceilings were raised, the Office of Price Stabilization put a curb on these operations.

The Republican election victory held out hopes for lessening of controls on business and a new approach to agricultural programs.

OTHER DEVELOPMENTS: An outbreak of anthrax in swine in several midwestern states resulted in restrictions on use of imported bone meal. . . . A study was initiated to combat the air sac disease which caused heavy mortality loss among broilers. . . . Drouth dealt a severe blow to the alfalfa crop, and spring floods damaged huge amounts of corn stored in CCC bins along the Missouri. . . . Many alfalfa processors stepped into chlorophyll production as the product experienced a big demand.

Ralston Purina Co. announced plans to build a mill at Shreveport, La. . . . The F. R. Miller feed plant at Omaha was purchased by Nutrena Mills, Inc. . . . A major expansion and modernization program of the Buffalo linseed oil facilities of Archer-Daniels-Midland Co. was announced. . . . The Hubbard Milling Co. was constructing a modern feed mill plant for the manufacture of the Sunshine brand of concentrates at Marion Ind. . . . Construction began on a $500,000 feed plant for the Denver Feed Co. to replace one destroyed by fire. . . . Plans were announced to replace the burned out Mid-West Mill, Abilene, Kansas. . . . General Mills, Inc., announced plans to build a formula feed mill in Stockton, Cal., and another in Miami, Fla.

A $500,000 fire hit the Murphy Products Co. plant in Burlington, Wis. . . . Ralston Purina Co. announced plans to buy Shellabarger Mills, Inc., Decatur, Ill., and also to build a solvent extraction soybean plant adjoining its mill in Kansas City. . . . Swift & Co. completed a formula feed mill in Des Moines. . . . Spencer Kellogg & Sons, Inc., announced plans to build cottonseed processing facilities in Long Beach, Cal. . . . The Eagle Roller Mill Co., New Ulm, Minn., purchased the Supersweet Feed Co., Waseca, Minn. . . . The new Kent Feeds plant of the Mississippi Valley Grain & Feed Co. opened at Muscatine, Iowa. . . . The Springfield, Ill., firm of Joe Schafer & Sons was incorporated and the named changed to Gainer Mills, Inc. . . . The Arrow Feed & Oil Co. sold its Memphis feed plant to Continental Grain Co. . . . Beacon Milling Co. dedicated its new feed plant at Laurel, Del.

Claude C. Barnes was named president of Acme-Goodrich, Inc. . . . Loyd M. Faris, the W. J. Small Co. division of Archer-Daniels-Midland Co., Kansas City, was elected president of the American Dehydrators Assn. . . . Joseph W. Sloan was promoted to vice president and plant manager of the Cosby-Hodges Milling Co., Birmingham, Ala. . . . V. I. Martin was named president of Universal Mills, Ft. Worth. . . . Walter C. Berger announced he was not a candidate for reelection as executive president of the American Feed Manufacturers Assn. and later became executive vice president and a member of the board of Shea Chemical Corp. . . . W. E. Glennon was elected to the top AFMA executive post, with William T. Diamond elected executive secretary-treasurer, succeeding Mr. Glennon. . . . J. D. Sykes, Ralston Purina Co., was elected chairman of the American Feed Manufacturers Assn. board. . . . Robert F. Deibel, Jr., was elected president of the Dixie Mills Co., East St. Louis, Ill. . . . Myron M. Carpenter was put in charge of feed formulation for King Midas Feed Mills. . . . John Zipoy resigned as chief of the feed section of the Office of Price Stabilization and returned to his post with Pilsbury Mills, Inc. . . . L. O. Hauskins was elected a vice president of Nutrena Mills, Inc. . . . L. F. Van Stone was elected president of Uncle Johnny Mills, Houston. . . . Ernest H. Kieser was named executive vice president of Kasco Mills, Inc., Toledo. . . . Colin S. Gordon was elected executive vice president of Quaker Oats Co. . . . H. T. Morrison was named a director of Cargill, Inc.

Deaths: Gaylord J. Stone, Uni-

Friend or Enemy?

FEED FOR FARMERS
SAM'S FEED
Delivery
U.S.A.
ARE YOU JUST WORKING 'ROUND HERE TEMPORARILY OR DO YOU INTEND TO GO IN BUSINESS FOR YOURSELF?
FEEDMAN

IT'S AN OLD PROBLEM—Feed men may think they have had problems in recent years with government competition developing out of drouth relief programs. But it's really nothing very new. In fact, about the same thing was happening back in 1934, as indicated in this cartoon from the Sept. 8, 1934, issue of Feedstuffs.

ELECTION IN THE BAG

The Staley Milling Co.'s "pullet poll" twice proved that buyers of chicken feed represent a very accurate cross-section of political opinion. It also proved that a simple system can sometimes get more accurate results than the complicated sampling methods of the professional pollsters.

In 1948 the pullet poll predicted within a few percentage points the victory of President Truman when several of the experts forecast a Dewey victory. Again in 1952 the Staley method correctly predicted the election of President Eisenhower, as reported in Feedstuffs (and newspapers across the country).

The method? Poultry feed customers were given a choice between sacks bearing a donkey or an elephant and the demand for each was totaled up.

FEED "LEASED"

From the July 4, 1942, issue of Feedstuffs: "The acute shortage of fish meal resulted in an unusual method of trading recently when a feed manufacturer, needing the product immediately and unable to buy it, 'leased' a carload from another mixer for $5 a ton. He stipulated that he would replace the fish meal within 10 days."

versal Mills, Fort Worth; Edward J. Grimes, Cargill, Inc.; Clarence S. Johnson, Ralston Purina Co.; Clark Hempstead, Pillsbury Mills, Inc.; George W. Selders, Spear Mills, Inc., Kansas City; A. G. Phillips, Allied Mills, Inc.

v v

1953

Drouth Feed Program Hurts Industry Sales

The price control headache ended in 1953, but the formula feed industry took on some other problems, not the least of which was the government drouth feed program.

Largely because of the drouth, formula feed production decreased for the first time in five years, but by only 2%. There was a 55% decline in the manufacture of cattle feed in the southwestern and Rocky Mountain states. This was caused by a reduction in animal numbers resulting from the drouth and the sale of government feed at cut prices.

Total 1953 feed production was 33.7 million tons.

The 1953 turkey crop was down 8% after the 1952 debacle; the pig crop was down 8%; the broiler situation improved; cattle numbers were large; chicks raised for flock replacement came up to the 1952 level.

Following up a drouth hay program the previous year, the government acted on "appalling" drouth conditions in the Southwest by selling government grains and cottonseed meal at reduced prices. The drouth areas expanded, and later southeastern states were brought in, too.

THE FEED INDUSTRY sought participation in the program, but at first was denied. Later a manufactured feed program was started, only to be halted by a freight rate decision. A new program was started and eventually was improved so that some "drouth emergency mixed feed" could be sold. The program involved use of cottonseed meal and corn in drouth feeds. These ingredients were purchased from the government stocks on the basis of $35 cottonseed meal and $1 corn, less freight and handling discounts. Later oats and cottonseed meal were removed from the government program as stocks were used up, and new drouth mixed feeds included corn and wheat.

The feed industry, in March, came out from under its second trouble-filled period of price controls within 10 years.

OTHER DEVELOPMENTS: The AFMA — pointing out that sound credit had helped build feed volume but that loose credit had hurt the poultry and feed industries — conducted a drive for sound credit and issued credit recommendations. . . . Financed by industry contributions, construction of the pilot mill for the feed technology school at Kansas State College was begun. Feedstuffs pointed out that "the potential value of the school is tremendous." . . . USDA authorized another year of price support for butter at 90% of parity. . . . Granular alfalfa meal was announced.

New developments in feeds were reflected in control officials discussions of labeling for antibiotics, animal fat, vegetable fat, urea, alfalfa granules. . . . High prices for beans and low prices for products put soybean processors in a squeeze, partly because of the drouth feed program. . . . The upswing in cattle numbers was halted, and more stability was foreseen. . . . Subjects discussed at the Midwest Feed Production School reflected modern developments in production—such things as bulk ingredients, paper bag handling, pelleting, automation, faster and more accurate mixing. . . . Use of fats in feed picked up rapidly. . . . Clarification of the retail exemption for feed dealers and small mixers was accomplished after three years of plugging for action by G&FDNA.

V. I. Martin resigned as president of Universal Mills, Fort Worth. . . . Dr. Lawrence Carpenter became executive director of the Distillers Feed Research Council. . . . Paul R. Ray was named manager of Burrus Feed Mills. . . . Arthur J. McLoughlin, formerly with Arcady, joined Quaker Oats. . . . Dr. Victor Heiman, Kasco Mills, Waverly, N.Y., headed the AFMA Nutrition Council. . . . Maurice Johnson, Staley Milling Co., again headed the Feed Technology School Advisory Committee. . . . Prof. J. G. Halpin of Wisconsin joined Murphy Products Co. . . . Lloyd Larson became executive vice president of Midwest Feed Manufacturers Assn. . . . Joseph Chrisman was named executive secretary-treasurer of American Dehydrators Assn.

. . . J. C. Hearn resigned as president of National Alfalfa. . . . Henry A. Hofmann was elected president of National Alfalfa. . . . John Murray was named vice president in charge of grain and ingredient purchasing for Quaker Oats. . . . W. J. Small and Herbert A. Dyer of the W. J. Small division of ADM retired; Erwin A. Olson succeeded Mr. Small, Richard W. Brierley was put in charge of operations, and Loyd M. Faris became sales director.

George Wolff III became president of Universal Mills; W. D. Waltman, Jr., board chairman. . . . Joseph N. Pless and Robert F. Sheahan opened a sales office in Memphis. . . . Harold W. McMillen was elected chairman of Central Soya Co., succeeding D. W. McMillen. . . . Charles N. Jones was named general sales manager of Arcady Farms Milling Co.

COLORADO MILLING & Elevator acquired Schultz, Baujan & Co., Beardstown, Ill. . . . Cosby-Hodges Milling Co., Birmingham, Ala., began construction of a new mill. . . . Work progressed on King Midas' new feed mill in Minneapolis. . . . Searle Mowat announced formation of Mowat, Wilson & Co. . . . General Mills formed a new feed division, headed by Whitney Eastman. . . . Pay Way Feed Mills, Kansas City, announced a plant improvement program. . . . J. D. Jewell planned a new mill at Gainesville, Ga. . . . Hubbard Milling completed a new plant at Marion, Ind. . . . Universal Mills opened a new mill.

Archer - Daniels - Midland consolidated its Archer Booster and Sunfed Booster feed divisions, with Earl E. Branson in charge. . . . Saunders Mills became the selling agent for the alfalfa meal production of Central Mills. . . . Scott County Milling, Sikeston, Mo., planned a new feed mill. . . . Du Pont announced plans for a methionine plant. . . . Elam Grain Co. built an elevator at St. Louis to handle soft feed ingredients. . . . Lauhoff Grain Co. bought Crete (Neb.) Mills.

Deaths: Ora A. McCrea, former Pillsbury millfeed manager; Wirt D. Walker, Arcady Farms Milling Co.; I. S. Joseph, I. S. Joseph Co.; J. T. Sexton, industry veteran of the Southwest; Charles G. Robinson, Memphis; Jack D. Dean, Midwest Feed Manufacturers Assn.; Louis F. Brown, long an AFMA executive; James P. Hessburg, Froedtert Corp.

v v

1954

Formula Feed Output Reaches New High

Feed production reached new high ground during 1954. The industry, in fact, moved up into the top 10 of all U.S. industry, ranking in ninth place. It accomplished its gains in spite of some serious competition from government distribution of relief supplies of grains and cottonseed meal in drouth areas, other disruption of markets by government disposal commodities and some internal difficulties with too-liberal extension of credit.

The first drouth program was replaced by another, more satisfactory one because it permitted more industry participation. At the end of the year feed men were still keeping a weather eye on drouth developments for possible long-term effects on their business.

CHICAGO DINNER-DANCE—Among those who attended the recent dinner-dance of the Chicago Feed Club were these guests. From the left: Mrs. Art Fahrenkrog; Ted Mitchell, Arcady Farms Milling Co.; Mrs. Harry Obarski; Art Fahrenkrog, Illinois Farm Supply; Mrs. Harry Rafferty; Harry Rafferty, Hudson Pulp & Paper Co.; Mrs. Ted Mitchell; Tom Lockwood, Kraft Bag Corp. and Mrs. Tom Lockwood. A member of the group at this table but away when the photographer stopped by was Harry Obarski, U.S. Industrial Chemical Co.

With flexible price supports finally going into effect, administration leaders concentrated on disposal of the huge surpluses of grains. Washington's approach to this goal was watched with concern by industry leaders. The possibility of the government becoming the only important factor in the grain and feed markets was cited as a serious threat by Dean McNeal, Pillsbury Mills, Inc., vice president, at the American Feed Manufacturers Assn. convention.

The most promising development, also cited at the convention, was the growing swing to an animal agriculture.

For the first time since 1949, farm livestock and poultry population showed a decrease at the start of the year, but it amounted to only 1%. Improvement in hog feeding ratios—up to 17.7 in mid-February—encouraged hog production, and the total 1954 crop was up 13% from the year before. A record number of turkeys—9% more than the year before—aided feed sales, too, as did a 2% increase in the number of chicks raised. Depressed egg prices in the fall led to feeding cutbacks.

OTHER DEVELOPMENTS: The feed industry and allied business contributed a classroom building and pilot feed mill for the new feed technology program at Kansas State College. Contributions added up to over $360,000.

A step toward establishing more consistent and uniform trading rules was taken when an AFMA committee of purchasing agents was organized. . . . Sales of government corn at 202.8 million bushels in the year ending Sept. 30 were more than double the amount sold the year before. . . . A total of 573 million pounds of dry milk were sold by the USDA to feed manufacturers under a program designed to relieve a protein shortage and reduce government inventories.

EXCELLENT RESULTS with feeding stilbestrol, a synthetic hormone, to beef cattle were reported in February by Dr. Wise Burroughs of Iowa State College. . . . In October, the Food & Drug Administration authorized the sale of a premix containing the product for use in cattle feeds.

The new AFMA sound slide film, "One for the Books," was released in October. . . . Poultry producers in the Delmarva Peninsula lost an estimated $17 million during hurricane "Hazel" which struck Oct. 15.

COMPLETION of a $1 million formula feed plant by the A. E. Staley Mfg. Co. was announced. . . . The Chas. M. Cox Co., Boston, purchased Dailey Mills, Oleon, N.Y. General Mills, Inc., announced plans for a "push-button" mill in Belmond, Iowa, and a new animal research farm near Indianola, Iowa. . . . The Glidden Co.'s feed business was sold to the A. E. Staley Mfg. Co. . . . Southern States Cooperative dedicated a $2 million feed mill and elevator in Seaford, Del. . . . Allied Mills, Inc., built feed mills at Gainesville, Ga., and Mason City, Iowa. . . . Dannen Mills, Inc., planned a new feed plant at St. Joseph to replace a unit destroyed by fire. . . . Control of Russell-Miller Milling Co. passed into the hands of F. H. Peavey & Co. . . . The main plant of Blatchford Calf Meal Co. was destroyed by fire.

Central Soya Co. and its McMillen Feed Mills made plans for a new feed plant, soybean processing plant and storage facilities at Chattanooga. . . . The American Cyanamid Co. created a new division—Fine Chemical Division—to handle sales of feed products. . . . A new phosphate chemicals division was formed by International Minerals & Chemical Corp. . . . Hales & Hunter Co., Chicago, started building a feed plant at Cartersville, Ga. . . . Ralston Purina Co. opened new mills at Gainesville, Ga., and Wilson, N.C. . . . National Alfalfa Dehydrating and Milling Co. and National Chlorophyll & Chemical Co. jointly acquired Cerophyl Laboratories, Inc., from the Quaker Oats Co. . . . National Alfalfa also acquired CarO-Green, Inc., Omaha. . . . The Corn Products Refining Co. purchased Kasco Mills, Inc., Toledo, Ohio, and Waverly, N.Y.

Dean K. Webster, president of the H. K. Webster Co., Lawrence, Mass., was named chairman of the AFMA. . . . James C. North was elected president of Nutrena Mills, Inc. . . . E. G. Cherbonnier was appointed vice president of Van Dusen Harrington Co. and will oversee feed operations of F. H. Peavey & Co. . . . Alvin E. Oliver, Michigan State College staff member, was named a special assistant in the Washington office of the Grain & Feed Dealers National Assn. . . . Harry E. Marshall, millfeed sales manager for Pillsbury Mills, Inc., retired. . . . Ray N. Ammon was elected president of Vitality Mills, Inc., Chicago. . . . Max F. Cohn, Sunset Feed & Grain Co., announced retirement plans. . . . Fred W. Thomas resigned as president of Central Soya Co. and Dale W. McMillen, Jr., was named to succeed him. . . . David H. McVey was named assistant general manager of the General Mills, Inc., feed division.

Deaths: Hugh A. Butler, Republican senator from Nebraska and former president of the Grain & Feed Dealers National Assn.; Bruce K. Conover, Maritime Milling Co. and Farmers Feed Co., New York; Roscoe E. Whitworth, Nutrena Mills, Inc.

v v

1955

And There You Are . . . And Here's to the Future

THE FEED MARKETS

★ ★ ★ ★

Demand — Supply — Trends — Prices

Quotations on feed ingredients shown in these and adjoining columns are wholesale prices, per ton, bagged, for prompt delivery, unless otherwise noted. They are the latest quotations available from Feedstuffs correspondents and are not necessarily those in effect on date of publication. The prices represent fair average trading values and do not necessarily represent extreme low or high levels at which individual sales might have occurred. A descriptive summary of supply and demand factors prevalent in the feed market appears on page 2.

ALFALFA MEAL

Ft. Worth: Demand good; supply sufficient; 17% 100,000 A $42@45, basis Texas origin; Oklahoma or Kansas origin, 17%, 100,000 A $49.50@50, Group 2.

Cincinnati: Demand fair; trend steady; supply adequate; 17% dehydrated, 100,000 vitamin A $50.55@51.55; 13% fine suncured $39@50.

Chicago: Demand slow; supply adequate; 17% dehydrated, with 100,000 units vitamin A guaranteed $45.50@46; 17% with no A guaranteed, none offered; 15% suncured, none offered; 13% fine ground suncured, none offered.

Boston: Demand slow; supply improved; dehydrated, 17% $51; suncured, 13%, none offered.

New Orleans: Demand fair; trend unsettled; supply adequate; 17% dehydrated, vitamin A guaranteed $46@48; non-guaranteed $44@46; 15% $42@44.

Seattle: Demand slack; trend firm; supply tight; 15% protein suncured $50 ton, 120,000 A unit dehydrated $62 ton, both delivered, carlots.

Kansas City: Continued dryness in important areas of Nebraska and Colorado and recent light harvest results have strengthened alfalfa prices slightly; demand is fair to good; straight run 17% dehydrated alfalfa $39, burlaps, and $40, papers, Kansas City; 17% dehydrated alfalfa meal with 100,000 units of vitamin A guaranteed on arrival from blenders $41, papers, Kansas City, and $42 for next week.

Minneapolis: Prices held firm throughout most of the week, but after good rains were reported in some producing areas an easier tendency developed. Quotations: 17% dehydrated, 100,000 units of vitamin A guaranteed $45.50@46.50, granules $47.50@48.50, oil treated $48.50@49.50.

Memphis: Demand fair; trend steady; supply ample; dehydrated, 17% protein, guaranteed 100,000 units vitamin A $45.50.

St. Louis: Demand for dehydrated fair, suncured slow; supply of dehydrated limited, suncured adequate; dehydrated, 17%, 100,000 A $44.50 ton; suncured No. 1 fine ground 13% $44.50 ton, f.o.b. St. Louis.

Milwaukee: Demand and supply fair; western dehydrated, 17%, with 100,000 A guarantee $45.75@47.75.

Indianapolis: Demand slow; trend steady to lower; supply fair; 13% $42, 17% $50.

Philadelphia: Demand dull; supply fair; 17% dehydrated $52.

Buffalo: Demand poor; trend unsteady; supply fair; $55, sacked, Boston.

Los Angeles: Demand fair; trend steady; supply adequate; 15% suncured $46; 17% dehydrated $49.

ALFALFA PELLETS

New Orleans: Demand fair; trend unsteady; supply limited; 17% dehydrated $48@50.

BARLEY FEED

San Francisco: Demand fair; supply ample; rolled $66, ground $65.

New Orleans: Demand slow; trend firm; supply adequate; pulverized $59@61.

Baltimore: Demand quiet; supply fair; $49.

Chicago: Demand quiet; supply fair; $40.

Boston: Demand fair; supply adequate; Canadian $51.

Seattle: Demand fair; trend firm; supply sufficient; whole $65 ton, ground $65 ton, rolled $67 ton, all ex-warehouse, l.c.l., sacked.

Indianapolis: Demand fair; trend unchanged; supply sufficient; whole $4.20 cwt., rolled $75, crimped $73.

Milwaukee: Demand fair; supply light; pulverized, white $52, feed $50; needles $1.09@1.14.

Philadelphia: Demand dull; supply fair; pulverized $53.50.

Ogden: Supply average; rolled $49@54, whole barley $42@47.

Los Angeles: Demand fair; trend steady; supply ample; standard rolled $3.06, standard ground $3.

BLOOD FLOUR

Louisville: Demand quiet; trend steady to weak; supply ample; $86@90.

New Orleans: Demand fair; trend steady; supply ample; $87.50@90, local plants.

BLOOD MEAL

Cincinnati: Demand fair; trend steady; supply adequate; $120@130.

Louisville: Demand dull; trend steady to weak; supply ample; $86@90.

New Orleans: Demand fair; trend steady; supply ample; $87.50@90, local plants.

San Francisco: Demand slow; supply ample; $5 a unit of ammonia; screened $4.90 a unit of ammonia.

Chicago: Demand fair; supply ample; $135.

Seattle: Demand slow; trend steady; supply limited; $100 ton, ex-warehouse, truck lots.

Los Angeles: Demand fair; trend steady; supply ample; $5 a unit of ammonia.

BONE MEAL

Ft. Worth: Demand slow; supply sufficient; $85, sacked, f.o.b. Ft. Worth, local manufacture.

St. Paul: Market easier; demand limited; supply adequate; $75@80 in large lots.

Cincinnati: Demand good; trend steady; supply adequate; $85@90 ton, sacked, f.o.b. Cincinnati.

Louisville: Demand slow; trend easy; supply normal; $70@75.

San Francisco: Demand good; supply fair; $68.

New Orleans: Demand slow; trend steady; supply sufficient; $82.50@85.

BONE MEAL (STEAMED)

Louisville: Demand slow; trend easy; supply ample; $75@80.

Chicago: Demand and supply fair; $75 @85.

Ft. Worth: Demand good; supply limited; best quality German production, 72% B.P.L., 14% phosphorus, 31% calcium $75, 100-lb. paper bags, ex-dock Houston.

New Orleans: Demand good; trend steady; supply limited; 66% B.P.L., 1% nitrogen, 30% phosphorus $77.50@80.

San Francisco: Demand good; supply ample; $82.50.

Boston: Demand good; supply light; $95.

St. Louis: Demand good; supply adequate; $97.50@100 ton, sacked.

Indianapolis: Demand fair; trend steady; supply sufficient; $90 ton, sacked.

Buffalo: Demand good; trend steady; supply limited; $95 ton, sacked.

Los Angeles: Demand fair; trend steady; supply ample; domestic $89.50.

Seattle: Demand steady; trend firm; supply limited; $95 ton, ex-warehouse, l.c.l.

BREWERS DRIED GRAINS

St. Louis: Demand fair; supply adequate; $37 ton, bulk; $42 ton, sacked.

Buffalo: Demand poor; trend unsteady; supply good; $43.50, bulk, Boston.

Philadelphia: Demand dull; supply light; $50.

Milwaukee: Demand and supply fair; $41.50.

Los Angeles: Demand fair; trend steady; supply ample; $47.50, bulk.

Louisville: Demand only fair; supply ample; trend steady; $46.

Cincinnati: Demand poor; trend lower; supply adequate; $45@46.

Chicago: Demand slow; supply abundant; 24% $41@41.50.

Ft. Worth: Demand fair; supply sufficient; 24% $47@48, prompt, delivered Ft. Worth.

San Francisco: Demand fair; supply ample; $59.50.

New Orleans: Demand dull; trend steady; to stronger; supply adequate; 24% $50@51.50.

Boston: Demand good; supply ample; domestic, 26% $50.75@51; Canadian, 22% $50.

BREWERS DRIED YEAST

Chicago: Demand good; supply limited; 10@11½¢ lb., in carlots; 10¾@12½¢, l.c.l.

Louisville: Demand fair; trend fairly steady; supply ample; 10¢ lb.

San Francisco: Demand fair; supply good; 11¢ lb.

Boston: Demand fair; supply adequate; 11¾¢ lb.

Pittsburgh: Carlots 10¢ lb.; 5-ton lots 11¢; ton lots 11¾¢.

New Orleans: Carlots 10¢ lb.; 5-ton lots 11¢; ton lots 11¾¢.

St. Louis: Demand good; supply limited; 10¢ lb. in carlots; 11¢ lb. in ton lots; 11¾¢ lb., less than ton lots.

New York: Carlots 9¾¢ lb.; 10-ton lots 10¢ lb.; 5-ton lots 10¾¢ lb.; ton lots 11¢ lb., f.o.b. New Jersey.

Cincinnati: Carlots 10¢ lb.; 5-ton lots 11¢; ton lots 11¾¢.

Buffalo: Demand excellent; trend firmer; supply very limited; $10.75 cwt.

Los Angeles: Demand good; trend steady; supply adequate; carlots 10½¢; 5-ton lots 11¢.

BUTTERMILK-CONDENSED

Indianapolis: Demand fair; trend steady; supply ample; 55-lb. drum $3; in drums or barrels $3.90 cwt.

Ogden: Supply average; $4.15, 100-lb. drums.

Philadelphia: Demand dull; supply fair; $4.25.

Los Angeles: Demand fair; trend steady; supply ample; 100-lb. drums $5.25; large barrels $4.50.

Louisville: Demand fair; trend steady; supply ample; $4.25 cwt.

Chicago: Demand fair; supply plentiful; $3.50 cwt. in carlots.

New Orleans: Demand moderate; trend steady; supply adequate; 100-lb. drums $4.25@4.50.

Boston: Demand slow; supply adequate; $4.10 cwt.

San Francisco: Demand fair; supply good; $5.35 cwt.

CALCITE CRYSTALS AND FLOUR

(All prices net, including freight and tax)

New York: Crystals $12.48, flour $9.42.
Buffalo: Crystals $14.30, flour $10.20.
Toledo: Crystals $15.77, flour $11.77.
Boston: Crystals $14.62, flour $10.62.
Limecrest, N.J.: Crystals $9.50, flour $5.50.

CALCIUM CARBONATE

Seattle: Demand steady; supply ample; trend unchanged; $14 ton, ex-warehouse, truck lots.

Los Angeles: Demand fair; trend steady; supply ample; meal and flour $10.53 ton, carloads; grits $13.03 ton, carloads.

Cincinnati: Demand fair; trend steady; supply adequate; $3@9.

Minneapolis: Plain $10; iodized (⅛ lb. KI per ton) $13.50; iodized-manganesed $16.05.

Chicago: Plain $8.55 ton in 100-lb. bags, delivered.

CHARCOAL

Los Angeles: Demand light; trend steady; supply light; poultry, oak $2.42 in 40-lb. bags in ton lots.

San Francisco: Demand steady; supply ample; $59.50.

New Orleans: Demand good; trend steady; supply limited; 40-lb. bags oak charcoal $2; 50-lb. bags poultry $2.25.

Chicago: Demand quiet; supply ample; poultry charcoal $93 ton in 50-lb. multiwalls.

Boston: Demand and supply light; $78.

COCONUT MEAL

Los Angeles: Demand fair; trend steady; supply adequate; cake, ex-dock, spot $69@70; May-June $70@71.

San Francisco: Demand fair; supply ample; solvent $64, imported $69.

Seattle: Demand slow; trend firm; supply limited; $71 ton, ex-dock, 30-day shipment from Philippines.

COD LIVER OIL (FORTIFIED)

Boston: Demand slow; supply good; 600 D, 2,250 A 22¢ lb.; 300 D, 2,250 A 21¢; 300 D, 1,500 A 18½¢.

Dayton: Trend steady; price per lb. in 55-gal. drums (410 lb.): 300 ICU, 1,500 A 19¼¢; 300 ICU, 2,250 A 20½¢; 300 ICU, 3,000 A 21¾¢; 600 ICU, 1,500 A 20½¢; f.o.b. Dayton.

New York: Trend steady; price per lb. in 55-gal. drums (400 to 420 lb.): 300 ICU, 750 A 16@18¢, f.o.b. New Jersey; 300 ICU, 1,500 A 17¼@19¼¢ and 300 ICU, 2,250 A 19@22¢, f.o.b. Massachusetts, New Jersey, New York, Pennsylvania; 300 ICU, 3,000 A 19¼@23¢, f.o.b. New Jersey, New York, Pennsylvania; 600 ICU, 1,500 A 18@19½¢, f.o.b. New York, Pennsylvania; 600 ICU, 2,250 A 20@22¢, f.o.b. Massachusetts, Pennsylvania; 600 ICU, 3,000 A 22@23½¢, f.o.b. Pennsylvania.

CORN GLUTEN FEED AND MEAL

(All quotations for all cities are sacked basis, bulk basis $5 less)

Minneapolis: Feed $54.77, meal $67.77.
Atlanta: Feed $61.92, meal $74.92.
Birmingham: Feed $60.18, meal $73.18.
Boston: Feed $59.15, meal $72.15.
Chicago: Feed $49, meal $62.
Cleveland: Feed $56.04, meal $69.04.
Denver: Feed $58, meal $71.
Ft. Worth: Feed $56.50, meal $69.50.
Indianapolis: Feed $53.50, meal $66.50.
Kansas City: Feed $49, meal $62.
Louisville: Feed $55.11, meal $68.11.
New Orleans: Feed $57.38, meal $70.38.
New York: Feed $58.69, meal $71.69.
Norfolk: Feed $55, meal $71.
Philadelphia: Feed $53.23, meal $71.23.
Pittsburgh: Feed $56.50, meal $69.50.
St. Louis: Feed $49, meal $62.

CONDENSED FISH SOLUBLES

Los Angeles: Demand fair; trend steady; supply ample; 5¢.

Boston: Demand slow; supply good; 4¼¢ lb.

CORN GERM MEAL

St. Louis: Demand fair; supply limited; $47 ton, bulk; $52 ton in burlap bags, St. Louis.

CORN OIL MEAL

New Orleans: Demand fair; trend steady; supply adequate; $58@57.75.

Louisville: Demand dull; trend steady to weak; supply average; $56.81.

Cincinnati: Demand fair; trend steady; supply adequate; $56.81@57.75.

COTTONSEED OIL MEAL

Ogden: Supply normal; 41% $78@83.

Boston: Demand fair; supply adequate; $75.

Kansas City: Demand fair; offerings adequate; market steady; $60@60.50, sacked, Memphis, for solvent or hydraulic.

San Francisco: Demand good; supply ample; $74.38.

Ft. Worth: Demand very limited; supply ample; carlots, sacked, central and north Texas origin, 41% old process $69@70; solvent, 41% low gossypol, fat added $65@66, delivered Ft. Worth; pellets $1 additional.

Memphis: Demand light; trend steady; supply adequate; prime 41% protein, old process $60.50, sacked; new process, 41% solvent $59, sacked.

Atlanta: Demand slow; trend steady; supply ample; 41% $65, sacked, immediate.

Indianapolis: Demand poor; trend steady; supply sufficient; $72 ton.

New Orleans: Demand poor; trend steady; supply adequate; old process $76.50@78.50; solvent $75@77.

Louisville: Demand slow; trend steady; supply normal; new or old process $70.

Cincinnati: Demand poor; trend steady; supply adequate; $70.56.

Chicago: Demand slow; supply adequate; hydraulic $72, solvent $72.

Seattle: Demand slow; trend steady; supply good; $34.50 ton, delivered, carlots, 41% expeller process.

Wichita: Demand moderate; supply sufficient; 41% old process $69.

Philadelphia: Demand dull; supply fair; $76.

Buffalo: Demand poor; trend unsteady; supply fair; $75, sacked, Boston.

Los Angeles: Demand limited; supply adequate; trend steady; $67.

A AND D FEEDING OIL

Chicago: Demand fair; supply adequate; straight A feeding oil, with 10,000 units vitamin A per gram 10@11¢ a million units of vitamin A, l.c.l., packed in 55 gal. drums, f.o.b. Chicago, drums included.

Seattle: Demand and trend steady; supply ample; 300 D, 3,250 A 22¢ lb.; 300 D, 1,500 A 18¢ lb.; 300 D, 750 A 17¢ lb.; all ex-warehouse, drums included.

Boston: Demand slow; supply good; 600 D, 1,500 A 17¢ lb.; 300 D, 3,250 A 19¢; 300 D, 1,500 A 16¢; 300 D, 750 A 15¢.

Milwaukee: Demand fair; supply ample; 55 D, 100 A 18¢; concentrated vitamin oils, 300 D, 750 A 19¢; 300 D, 1,500 A 21¢; 300 D, 2,250 A 23¢.

Buffalo: Demand steady; supply adequate; 300 D, 750 A 19¢ lb.; 300 D, 1,500 A 21¢ lb.; 300 D, 3,250 A 24¢ lb.; 300 D, 3,000 A 27¢ lb.; 600 D, 6,000 A 33¢ lb.; straight vitamin A feeding oil 10¼@11¼¢ per M. U. drum lots, drums included, basis Buffalo.

Minneapolis: All with DPPD—straight A feeding oil 13¢ per million; 55 D $1.08 gal.; 300 D, 750 A 16¢ lb.; 300 D, 1,500 A 18¢ lb.; 300 D, 2,250 A 20¢ lb., single drum lots.

Dayton: Trend steady; price per lb. in 55-gal. drums (410 lb.): 300 ICU, 750 A 18¢; 300 ICU, 1,500 A 19¢; 300 ICU, 3,000 A 21¢; f.o.b. Dayton.

New York: Trend steady; price per lb. in 55 gal. drums (400 to 420 lb.): 300 ICU, 750 A 13½@16½¢; 300 ICU, 1,500 A 15½@17½¢, f.o.b. Massachusetts, New Jersey, New York, Pennsylvania; 300 ICU, 2,250 A 17½@20¢, f.o.b. Massachusetts, New Jersey, Pennsylvania; 300 ICU, 3,000 A 19½@21¢, f.o.b. New Jersey, New York, Pennsylvania; 600 ICU, 1,500 A 16@18¢, f.o.b. Massachusetts, New Jersey, Pennsylvania; 600 ICU, 2,250 A 18@19½¢; 600 ICU, 3,000 A 20@21½¢, f.o.b. New Jersey, Pennsylvania.

D ACTIVATED ANIMAL STEROL, POWDERED

Cincinnati: Demand fair; trend steady; supply ample; 1,500 ICU 11@12¢; 3,000 ICU 18¢, warehouse.

Kansas City: Demand fair; trend steady; supply adequate; 10½@11¢ lb.

New York: Trend steady; price per lb. in 50- to 100-lb. bags or 100-lb. drums; 1,500 ICU 10@13.5¢ bagged, 11@12¢ drums; 3,000 ICU 16@19¢ bagged, 17@18¢ drums; f.o.b. New York and New Jersey.

DEFLUORINATED PHOSPHATE

Tupelo, Miss.: $54.20.
Coronet, Fla.: 17% $56, 14½% $48.
Houston: $65.50.
Wales, Tenn.: $69.85.

DICALCIUM PHOSPHATE

Trenton, Mich.: Minimum phosphorus 21%, maximum fluorine .01% guaranteed $90.30, f.o.b. Trenton, in 100-lb. multiwall bags; minimum phosphorus 18½%, maximum fluorine .01% guaranteed $79.55, f.o.b. Trenton in 100-lb. multiwall bags.

East St. Louis: Monocalcium or dicalcium phosphate, 18½% phosphorus $79.55 ton, bagged, f.o.b. cars.

Adams, Mass.: Minimum phosphorus 18½%, minimum 25% calcium, maximum .01% fluorine guaranteed $79.55 ton, f.o.b. Adams, in 100-lb. multiwall bags. Freight equalized with nearest producing point, carload basis.

Columbia, Tenn.: Minimum phosphorus 18½%, minimum 25% calcium, maximum .01% fluorine guaranteed $79.55 ton, f.o.b. Columbia, in 100-lb. multiwall bags. Freight equalized with nearest producing point, carload basis.

Bonnie, Fla.: Demand improving; supply adequate; minimum phosphorus 18½%, granular $79.55. Freight equalized with closest dicalcium phosphate producing point, carload basis.

St. Louis: Minimum phosphorus 21%, maximum fluorine .01% guaranteed $90.30, f.o.b. St. Louis in 100-lb. multiwall bags; minimum phosphorus 18½%, maximum fluorine .01% guaranteed $79.55, f.o.b. St. Louis in 100-lb. multiwall bags.

Minneapolis: 18½% phosphorus $83.54; 21% $101.

Chicago: Demand fair; supply adequate; stock food grade, 18.5% phosphorus, 20,000 lb. or more $79.55 net ton in 100-lb. papers, basis Chicago Heights, Ill.; less than 20,000 lb. $89.55 net ton; 21% phosphorus 20,000 lb. or more $90.30 net ton, basis Chicago Heights and Nashville, Tenn., less than 20,000 lb. $100.30 net ton.

Cincinnati: 18% phosphorus $82@83.

DISTILLERS DRIED GRAINS

Louisville: Demand good; trend steady; supply reasonable; bourbon grains, light $54, dark $56, solubles $80.

New Orleans: Demand fair; trend steady; supply scarce; $61@62.

Philadelphia: Demand dull; supply very light; no quotations.

Boston: Demand light; supply plentiful; light $66.

Buffalo: Demand good; trend steady; supply poor; $61, bulk, Boston.

New York: Demand slow; supply good; light corn grain $55, dark $57, bulk; dried solubles $86, sacked, Boston.

Cincinnati: Demand poor; trend steady; supply adequate; $57@60.

San Francisco: Demand fair; supply ample; solubles $85.

DRIED BEET PULP

San Francisco: Demand good; supply fair; $50.96.

New Orleans: Demand fair; trend steady; supply adequate; $68@70.

Ft. Worth: Demand quiet; supply moderate; carlots, 40-lb. papers $71@72, delivered Ft. Worth, May shipment.

Cincinnati: Demand poor; trend steady; supply adequate; $66.50@70.

Ogden: Supply normal; $47@52.

Boston: Demand quiet; supply spotty; $75, nominal.

Atlanta: Demand fair; trend steady; supply limited; $77.50, sacked, May.

Seattle: Demand good; trend strong, supply exhausted; $49 ton, delivered, carlots, nominally only.

Milwaukee: Demand fair; supply ample; plain $68, molasses $65.50.

Buffalo: Demand fair; unquoted because of scarcity.

Los Angeles: Demand moderate; trend steady; supply ample; $50.25@51, new crop, paper bags.

DRIED BUTTERMILK

Boston: Demand nil; supply scarce; 11½¢, nominal.

Milwaukee: Demand good; supply fair; 11½@13¢.

Indianapolis: Demand none too good; trend unchanged; supply ample; $11.50 cwt., sacked.

Buffalo: Demand good; trend steady; supply ample; $11.25 cwt.

Ogden: Supply average; $8.65, 100-lb. bag.

Wichita: Demand slow; supply adequate; $8.50 cwt.

Minneapolis: Market easier; demand limited; $9.50@10 cwt.

Los Angeles: Demand good; trend steady; supply limited; $14.

Ft. Worth: Demand limited; supply extremely limited; local production, nominal $13 cwt., f.o.b. Ft. Worth.

New Orleans: Demand slow; trend steady; supply scarce; $11.50@11.75 cwt.

Louisville: Demand slow; trend easy; supply normal; $10.75@11 cwt.

San Francisco: Demand fair; supply ample; $13 cwt.

Chicago: Demand fair; supply adequate; $10.25@10.50 cwt., in carlots.

DRIED CITRUS PULP

Boston: Demand and supply nil; withdrawn because of scarcity of offerings or bids.

New Orleans: Demand good; trend steady; supply scarce; $41@45, Florida points.

San Francisco: Demand good; supply fair; $52.

Atlanta: Demand good; supply limited;

prices strong; pulp $57.50, meal $62.50, sacked, immediate.

Buffalo: Demand fair; unquoted because of scarcity.

Los Angeles: Demand good; trend steady; supply very light; f.o.b. southern California producers' plants: orange $45 sacked, $41 bulk.

DRIED SKIM MILK

Boston: Demand fair; supply ample; 12¢ lb.

Louisville: Demand slow; trend easy; supply normal; $12@12.25 cwt.

Cincinnati: Demand fair; trend steady; supply adequate; 11½@12¼¢.

New Orleans: Demand good; trend steady to easier; supply ample; $12.50@12.75 cwt.

San Francisco: Demand and supply fair; 14½¢ lb.

Minneapolis: Market easier; demand light; $11@11.50 cwt.

Chicago: Demand fair; supply adequate; $11.75@12 cwt., in carlots.

Buffalo: Demand very good; supply limited; trend steady; $12.75 cwt.

Milwaukee: Demand good; supply fair; 12¾@14¢.

Philadelphia: Demand and supply fair; $13 cwt.

Los Angeles: Demand good; trend steady; supply light; $14.

DRIED WHEY

Cincinnati: Demand fair; trend steady; supply adequate; $6.

Louisville: Demand fair; trend easy; supply normal; $6@6.25 cwt.

Chicago: Demand fair; supply adequate; $8 cwt. in carlots.

New Orleans: Demand poor; trend unsettled; supply adequate; $6@6.50 cwt., fortified.

San Francisco: Demand steady; supply good; $6.50 cwt.

Ft. Worth: Demand fair; supply adequate; carlots, standard $6 cwt., sacked, delivered Ft. Worth or any Texas point or in ton lots, f.o.b. warehouse, Ft. Worth.

Boston: Demand poor; supply plentiful; 6¢ lb.

Philadelphia: Demand and supply fair; $6.75.

Buffalo: Demand and supply fair; trend steady; $6 cwt., delivered.

Ogden: Supply average; $6.50, 100-lb. bag.

Kansas City: Demand fair; market steady; straight grade $6 cwt.; partially delactosed $6.60 cwt.

Seattle: Demand steady; supply ample; trend unchanged; $7 cwt., ex-warehouse, truck lots.

Los Angeles: Demand fair; trend steady; supply ample; fortified $6.40; unfortified $6.25.

Minneapolis: Market easier; demand slow to fair; $5.50@5.75 cwt.

FISH MEAL

Louisville: Demand slow; trend easy; supply ample; $155@160 ton.

Ft. Worth: Demand of buyers indifferent on account of nearness of new crop menhaden meal; supply limited for nearby; South African pilchard 60%, 10% dried solubles $152, plain $149, late May ex-dock Houston.

New Orleans: Demand slow; trend easier; supply limited; 60% $152@155.

Milwaukee: Demand and supply fair; 60% $173.

Buffalo: Demand good; trend lower; supply ample; $150 ton, bulk; $154, sacked.

Indianapolis: Demand fair; trend unchanged; supply ample; $168 ton, sacked.

San Francisco: Demand fair; supply ample; imported $2.40 a unit of protein.

Ogden: Supply normal; $2.20 a unit, f.o.b. Coast; 65% $171@173.

Minneapolis: Market easier; demand fair; 60% meal $159@160, Minneapolis; 70% Canadian herring meal $2.36 a unit, Coast.

Atlanta: Demand good; trend steady; supply limited; 60% $152, sacked, immediate.

Chicago: Demand fair; supply limited; menhaden fish meal, 60% protein, f.o.b. East Coast $135@139 ton; 60% blended West Coast $141; Northwest herring-salmon blend $141; herring meal 73% protein $2.36 a unit of protein.

Los Angeles: Demand fair; trend steady; supply ample; $2.50 a unit of protein.

Cincinnati: Demand fair; trend steady; supply adequate; $160.

Boston: Demand fair; supply ample; $133@135.

Seattle: Demand slow; trend steady; supply fair; Canadian herring meal $2.45 a unit, Seattle; local production $2.35 a unit, Seattle.

HAY

New Orleans: Demand fair; trend steady; supply adequate; timothy and clover $39@41, baled alfalfa $32@34, prairie $30@32.

Ft. Worth: Demand fair for alfalfa, slow for others; supply increasing, new crop beginning to move; carlots, baled, No. 1 alfalfa $46@48, No. 2 $44@46; prairie No. 2 $34@36; Johnson grass, No. 2 $33@35, delivered TCP.

Louisville: Demand slow; trend steady; supply normal; No. 1 hay, all types, clover, alfalfa or mixed clover and timothy, or straight timothy $35, No. 2 $33; straw, wheat or oat $14, rye $15.

Cincinnati: Demand fair; trend steady; supply adequate; No. 1 timothy $25; first cutting No. 1 alfalfa $25; second cutting $29; No. 1 red clover and timothy $29; No. 1 red clover $27, bright white or oat straw $14.

Wichita: Demand slow; supply insufficient; prairie $30@32, alfalfa $28@30.

Philadelphia: Demand and supply fair; as to quality $33.

New York: Demand good; trend steady; supply moderate; timothy, No. 1 $42@48, No. 2 $33@38, No. 3 $29@31.

Buffalo: Demand steady; No. 2 timothy $18@20 ton; No. 2 alfalfa $25@28; straw $10@14.

Ogden: Supply average; $1.35 bale; $31@35 ton in the barn.

Los Angeles: Demand active; supply adequate; trend steady; U.S. No. 1 $36@37; U.S. No. 2 leafy $33@35; U.S. No. 2 green $33@34; U.S. No. 2 $30@32.

Seattle: Demand good; trend strong; supply tight; $46 ton, delivered, truck lots, U.S. No. 2 green.

Boston: Demand steady; supply adequate; No. 2 timothy $38@40.

St. Louis: Demand fair; supply ample; timothy and clover mixed $28@34 ton; alfalfa, fourth and fifth cutting, old $30@35 ton; alfalfa milling grades, first cutting, new $16@18; straw $14@16 ton.

HOMINY FEED

Indianapolis: Demand slow; trend downward; supply plentiful; $54.50 ton, including state tags and used bags; white corn $57 ton, sacked.

Milwaukee: Demand and supply fair; $50.50.

Buffalo: Demand and supply fair; trend steady; $55, bulk, Boston.

Boston: Demand slow; supply adequate; $60.

Memphis: Demand poor; trend steady; supply adequate; white $54, yellow $56.

Kansas City: Demand moderate; supply light; nominally $56, sacked, Kansas City.

Seattle: Demand fair; trend steady; supply ample; $68 ton, delivered, sacked, carlots.

Cincinnati: Demand fair; trend steady; supply adequate; $52.40@53.

New Orleans: Demand slow; trend steady; supply adequate; $60.50@62.50.

Louisville: Demand fair; trend steady; supply ample; $54.60, quoted on yellow.

Chicago: Demand slow; supply plentiful; $50@50.50.

LINSEED OIL MEAL

Philadelphia: Demand dull; supply fair; 34% $76.

San Francisco: Demand and supply fair; $86.

Indianapolis: Demand improved; trend higher; supply sufficient; $73, new process only.

Milwaukee: Demand and supply fair; 34% $66; 36% $70.50.

Wichita: Demand slow; supply adequate; 34% $82.

Los Angeles: Demand good; trend steady; supply adequate; old crop $77; new crop $61; July-August.

Cincinnati: Demand fair; trend steady; supply adequate; $70.50@75.50.

Louisville: Demand slow; trend easy; supply normal; new process $72.35; old process $76.35.

Minneapolis: Restricted production and fairly good country demand kept linseed meal firm this week, and prices were quoted $1 ton higher at $57, bulk, Minneapolis, for 36%.

Ft. Worth: Demand slow; supply sufficient; carlots, 36% expeller $77.32, May shipment, delivered Ft. Worth; pellets $2.50 premium.

New Orleans: Demand slow; trend steady to higher; supply sufficient; 32% or better $75.50@77.50.

Chicago: Demand for linseed oil meal picked up in the central states during the week ending May 18, with supplies for immediate shipment scarce. Deferred orders, however, could be filled with ease. Quotations May 18: solvent linseed oil meal $87, expeller $75.

Boston: Demand slow; supply adequate; 34% $79.96, 36% $75.96.

Kansas City: Demand fair; offerings moderate; trend firm; $56@58.50, bulk, Minneapolis.

Seattle: Demand fair; trend steady; supply sufficient; $95 ton, ex-warehouse, for spot expeller process; $77.50 ton, carlots, July forward, expeller process.

MALT SPROUTS

Milwaukee: Demand fair; supply adequate; $39.50@40.50.

New Orleans: Demand fair; trend steady to easier; supply adequate; $40.50@43.

Cincinnati: Demand fair; trend steady; supply adequate; No. 1 $42.50@44.50.

Chicago: Demand slow; supply adequate; No. 1 $37.50@38.50.

St. Louis: Demand good; supply ample; No. 1 bulk $32 ton, No. 1 sacked $38 ton, No. 2 sacked $29 ton.

Boston: Demand and supply nil; withdrawn.

MEAT SCRAPS

San Francisco: Demand improved; supply fair; $1.85 a unit of protein.

Wichita: Demand good; supply insufficient; 50% $80, f.o.b. plant; 55%, no quotations, no offerings.

Buffalo: Demand very slow; trend steady; supply ample; 50% meat scraps $67 ton, bulk; $71, sacked.

Milwaukee: Demand weak; supply good; 50% $75.

New York: Demand slow; trend steady; supply sufficient; 50% $70, 55% $77.50, bulk; 50% $72.50, 55% $80, sacked.

Los Angeles: Demand good; trend steady supply ample; $1.80 a unit of protein, sacked; $1.75 a unit of protein, bulk.

Cincinnati: Demand fair; trend steady; supply adequate; 50% $72@75 ton, sacked, f.o.b. Cincinnati.

St. Paul: Market easier; demand improved; supply plentiful; 50% meat and bone scraps $77.

Louisville: Demand dull; trend weak; supply ample; $72.50@77.50 ton.

Ft. Worth: Demand poor; supply ample; meat and bone, 50% $75@78, sacked, f.o.b. or delivered, Ft. Worth.

New Orleans: Demand fair; trend steady; supply ample; 50% $79@85.50.

Chicago: Demand fair; supply ample; 50% protein $72.50@75; 55% $87.

Kansas City: For 50% meat and bone scraps $77.50@80, sacked, Kansas City.

St. Louis: Demand good; supply ample; 50% $75@76 ton bulk, $79@80 ton in paper sacks, $80@82.50 ton in burlap sacks.

Seattle: Demand good; trend steady; supply sufficient; $95 ton, ex-warehouse, truck lots, 50% protein.

Boston: Demand and supply good; $1.20 a protein unit; converted 50% $72.50.

MILLET

St. Louis: Demand slow; supply scarce; recleaned Early Fortune $4.25 cwt., sacked; recleaned White Proso $4.75@5.25 ton, sacked.

MILLFEED

Minneapolis: Prices continued to slip this week, with bran under heaviest pressure. The recent brisk demand for bulk middlings also tapered off. Quotations: bran $38@39, standard midds. $47@47.50, flour midds. $54.50@55, red dog $57.50@60.

Kansas City: The spread between bran and shorts has widened to better than $16 with sacked shorts almost impossible to obtain and bran lagging in demand; quotations May 18: bran $38@38.50 and shorts $54.50@55, sacked, Kansas City.

Ft. Worth: Demand fair on bran, urgent on shorts; supply moderate on bran, light on shorts; carlots, burlaps, prompt, wheat bran $47.50@48.50, gray shorts $63, delivered TCP; about unchanged on bran and $3 higher on shorts, compared with a week previous.

Wichita: Demand good; supply about offsets demand; basis Kansas City, May 17: bran $38.50@39, shorts $53.75@54.25; prices on bran were unchanged, while shorts advanced $2.75 ton, compared with the preceding week.

Chicago: Mixed quotations on millfeeds prevailed in the central states during the week ending May 18. Heavier types came in for an improved demand, but bran appeared plentiful. Quotations May 18: bran $44, standard midds. $52, flour midds. $59.50@60, red dog $62@63.

Milwaukee: Demand fair; supply good; pure bran $44@46.50, standard midds. $52@52.50.

St. Louis: Demand for bran slow, with offerings ample; sacked shorts in good demand and scarce; bulk shorts plentiful; bran $42.25@42.75, shorts $58.75@59.25, St. Louis switching limits.

Louisville: Demand good; trend irregular but stronger; supply ample; bran $48.15, mixed feed $56.65, shorts $62.90, standard midds. $59.35.

Cincinnati: Demand fair; trend lower; supply adequate; bran $49, middlings $55@60.

Indianapolis: Demand slow; trend downward; supply sufficient; soft winter wheat bran $51, standard midds. $57, mixed feed $58, gray shorts $60.

Buffalo: Millfeed sales were fairly good, with buying interest centered in middlings. Sales activity stemmed from small mixers. Bran closed 50¢ lower and middlings unchanged. Heavy feeds were strong on good southern hog demand. Bran $46@46.75, standard midds. $52.50@53.50, flour midds. $63@64.75, red dog $64@65.50.

New York: Demand slow; trend easy; supply plentiful; bran $53@54, standard midds. $59@60.25, sacked.

Philadelphia: Demand spotty; supply ample; bran $54, standard midds. $60, red dog $71.

Boston: Demand slow; supply spotty; bran $54, middlings $57.

New Orleans: Demand good; trend down on bran, stronger on shorts; supply adequate; bran $48@48.50, shorts $63@64.75.

Seattle: Demand fair; trend strong; sup-

FEED INGREDIENTS
Fish Meal • Scrap • Solubles
Bigelow Sales Company
Produce Exchange Building
2 Broadway, NEW YORK 4, N. Y.
Tel. HAnover 2-9195

Landby Dehydrating Co.
Manufacturers of Dehydrated Alfalfa Meal
Established 1946
A. J. Landby, Warroad, Manager
Res. Phone 153
Mill at Swift, Minn.

ELK VALLEY ALFALFA MILLS
Division—MIDLAND INDUSTRIES, INC.
INDEPENDENCE, KANSAS
Elk Valley Dehydrated ALFALFA MEAL
Dehydrators • Blenders

FEED GRAINS
KAFIR-MILO
BARLEY - CORN - OATS - WHEAT
From Every Grain Producing Area in United States
CONTINENTAL GRAIN COMPANY

OFFICES:
New York, Chicago, Kansas City, St. Louis, Omaha, Columbus, Memphis, Norfolk, Nashville, Enid, Minneapolis, Louisville, Fort Worth, Buffalo, Toledo, Houston, Galveston, Portland, San Francisco, Vancouver, B. C., Winnipeg, Los Angeles

TERMINAL ELEVATORS:
Kansas City, St. Louis, Chicago, Buffalo, Omaha, Toledo, Columbus, Fort Worth, Portland, Galveston, Enid, Minneapolis, Norfolk, Nashville, Louisville, Memphis, Houston

ply tight; $40 ton, carlots, June shipment.

Memphis: Demand good; trend steady; supply limited; wheat bran $46, gray shorts $61, standard midds. $58.50.

Ogden: Supply normal; Utah and Idaho: red bran and mill run $46, middlings $51; to Denver: red bran and mill run $53, middlings $58; to California: red bran and mill run $53.50, middlings $58.50, f.o.b. San Francisco and Los Angeles.

San Francisco: Demand fair; supply ample; $57.50, red bran $57.50.

Los Angeles: Demand moderate; trend firm; supply ample; mill run, Utah-Idaho billing, sacked $58; red bran, delivered CCP, sacked $57.50.

MINERAL FEED

San Francisco: Demand steady; supply good; all-purpose with iodine $70.

Indianapolis: Demand good; trend firm; supply sufficient; phosphorus mixtures $55 ton; competitive brands $43 ton.

Wichita: Demand fair; supply ample; all-purpose with iodine, 50-lb. blocks $92.50, 100-lb. bags $87.50, f.o.b. plant.

Sioux City: 50-lb. mineral blocks, 8.3% phosphorus $93; 7.8% phenothiasine sheep mineral blocks $4 each.

New Orleans: Demand fair; trend steady; supply adequate; all-purpose granules $86@87.50; blocks $92.50@97.50.

Ft. Worth: Demand fair; supply ample; all-purpose granules $85, block $95; mineral phosphorus 4%, granules $98, block $108; cattle-sheep mineral, 7% phosphorus, granules $95, block $104; hog mineral, phosphorus 2¼%, granules $86; phosphorus 2% $60 (all in 50-lb. paper bags).

Seattle: Demand steady; supply ample; trend unchanged; $56 ton for high phosphorus mixtures; $44 ton for competitive brands.

MOLASSES

New York: Demand good; trend firm; supply adequate; blackstrap 12½¢ gal. in tank cars, tank wagons, f.o.b. New York, Pennsylvania and Maryland.

Beaumont, Texas: Demand good; trend steady; supply sufficient; blackstrap 11¢ gal., tank cars and tank wagon, f.o.b. Beaumont.

Minneapolis: Market steady to easier; 10¼@10½¢ gal., f.o.b. New Orleans; $20 ton, West Coast.

Memphis: Demand fair; trend steady; supply adequate; blackstrap 10¼¢ gal., tank car, f.o.b. New Orleans.

Atlanta: Citrus molasses—demand very good; supply limited; prices strong; $17.50 ton, f.o.b. Florida producing points, immediate.

Milwaukee: Demand fair; supply adequate; 10¼¢ gal., New Orleans.

Indianapolis: Demand fair; trend steady; supply sufficient; 9@9½¢ gal., tank cars, f.o.b. Gulf ports.

San Francisco: Demand and supply good; $20 ton, f.o.b. cars, Richmond, Cal.

Buffalo: Demand and supply good; trend steady; 12¢ gal., Albany.

Los Angeles: Demand good; trend steady; supply adequate; $20, f.o.b. tank cars; $20.25, f.o.b. tank trucks, both Los Angeles harbor.

New Orleans: Demand fair; trend steady; supply adequate; 10¼¢ gal., f.o.b. New Orleans in tank cars.

Ft. Worth: Demand fair; supply ample; blackstrap 11¼¢ gal., f.o.b. Houston; carlots, delivered Ft. Worth; cars and/or trucks $37.38, seller's market price on date of shipment; maximum 13¼¢, May through June.

Kansas City: Demand moderate; offerings adequate; trend about steady; for nearby 10¼@10½¢ gal., New Orleans; June forward 10½@11¢ gal.

Louisville: Demand slow; trend steady; supply normal; 10¼¢ gal. in tank car lots, f.o.b. Gulf ports.

Cincinnati: Demand fair; trend steady to easier; supply adequate; 10½@11¢ gal., New Orleans.

Seattle: Demand steady; supply good; $20 ton, f.o.b. Seattle, tank car lots.

Boston: Demand seasonal; supply adequate; 13¢ gal. in tank cars.

NIACIN

New York: Trend steady; $3 kilo, 50-kilo lots; $6.10 kilo, 10-kilo lots; $6.30 kilo, 5-kilo lots; $8.30 kilo, 1-kilo lots; freight prepaid or paid to destination.

OAT PRODUCTS

Indianapolis: Demand fair; trend unchanged; supply ample; pulverized white oats $56, pulverized mixed oats $49, crimped white oats $74, fine ground feeding white oats or oatmeal $90, rolled white oats $103, white clipped oats $1.03 bu., sacks extra.

Philadelphia: Demand dull; supply light to fair; pulverized white oats $57; Canadian oat feed $26.50; domestic, no quotations.

Milwaukee: Demand and supply fair; pulverized, white $49, feed $47; molasses oat feed $35; reground oats, 3% $17, 5% $19.

Minneapolis: Demand remains only fair for most products; reground supplies are tight and quoted $1 ton higher. Quotations: feeding rolled oats $90@92, standard pulverized $46@49.50, feeding oatmeal $81.50@82, reground oat feed $17@18.

Memphis: Demand fair; trend lower; none available; 3½% protein, reground oat feed $24.

Los Angeles: Demand fair; trend steady; supply ample; standard white pulverized, sacked, delivered CCP $69.

Cincinnati: Demand fair; trend steady to easy; supply adequate; reground oats $22.50@24, pulverized white oats $53@55.50, rolled oats $96@100.

New Orleans: Demand fair; trend steady; supply adequate; pulverized white oats $59@66, oats $56@57, mixed feed oats $52@54.

Louisville: Demand fair; trend fairly steady; supply ample; reground $23.35, rolled oats $95.35, feeding oatmeal $95.35, pulverized white oats $53.35, crimped white oats $74.35.

Chicago: Demand good; supply low; reground oat feed $18@18.50; fine ground feeding oatmeal $81@82; feeding rolled oats $91@93.

St. Louis: Demand fair; supply scarce; reground oat feed $20.50 in 100-lb. burlap bags; pulverized white oats $50 ton, choice $62.

Boston: Demand steady; supply fair; white pulverized $55; reground oat feed $20.50.

Seattle: Demand and trend steady; supply good; feed oats $67 ton, ground oats $67 ton, rolled oats $70.50 ton, all ex-warehouse, l.c.l.

OYSTER SHELL

San Francisco: Demand fair; supply ample; local $13, eastern $24.

Los Angeles: Demand fair; trend steady; supply ample; local $18.50, eastern $25.

New Orleans: Demand fair; trend steady; supply ample; $13@14, local origin.

Louisville: Demand good; trend steady; supply normal; $19.39 ton.

Seattle: Demand steady; supply good; trend unchanged; eastern $32 ton, western $28 ton, both ex-warehouse, l.c.l.

Boston: Demand and supply steady; in paper $21.44.

COTTONSEED OIL MEAL FUTURES

Closing prices of cottonseed oil meal (41% protein) on the Memphis Merchants Exchange in dollars per ton (bulk):

	May 13	May 14	May 17	May 18	May 19
May	....@ 53.00	....@	53.00@ 55.50	....@ 53.50	53.00@ 54.50
July	53.00@ 54.25	....@	54.25@ 55.25	....@	54.50@ 54.75
October	....@	....@	....@	54.50@ 54.75	....@ ....
December	54.00@ 54.50	....@	....@	....@	54.50@ 55.00
January	54.00@ 54.50	54.05@ 54.75	54.50@ 55.50	....@	54.75@ 55.25
March	54.00@ 54.50	54.00@ 54.75	54.50@ 55.50	54.25@ 55.50	54.25@ 55.50

SOYBEAN OIL MEAL FUTURES

Closing prices of soybean oil meal (basis Decatur, Ill.) on the Chicago Board of Trade and on the Memphis Merchants Exchange, in dollars per ton (bulk basis):

CHICAGO

	May 13	May 14	May 17	May 18	May 19
May	52.25@ 52.40	52.40@ 52.50	....@ 52.20	51.60@ 52.00	52.10@ 52.00

MEMPHIS

	May 13	May 14	May 17	May 18	May 19
May	....@	51.00@ 52.00	....@	....@	....@ ....
July	50.00@ 51.00	50.50@ 51.50	50.50@ 51.25	50.00@ 50.75	49.60@ 50.50
August	50.00@ 51.00	50.25@ 51.25	50.25@ 51.00	49.50@ 50.50	49.50@ 50.50
September	50.00@ 51.00	50.25@ 51.25	50.00@ 51.00	49.75@ 50.50	49.50@ 50.50
October	50.00@ 50.75	50.25@ 51.25	50.00@ 51.25	49.90@ 50.75	49.90@ 51.00
December	50.25@ 50.75	50.25@ 51.25	50.50@ 51.25	50.00@ 51.00	50.00@ 51.10
January	50.25@ 51.25	50.50@ 51.50	50.50@ 51.50	50.00@ 51.25	50.25@ 51.25
March	50.25@ 51.25	50.75@ 51.75	50.75@ 51.75	50.25@ 51.25	50.40@ 51.25

PEANUT OIL MEAL

Milwaukee: Demand and supply fair; 26% $53, 45% $80.

New Orleans: Demand slow; trend steady; supply limited; 26% $54@55; 45% $75@77.50.

PEAT MOSS

New Orleans: Demand good; trend steady; supply scarce; 150-lb. bales German moss $3.75@3.95.

Chicago: Demand good; supply scarce; $3.80@3.95, standard 7½ cu. ft. bale.

Philadelphia: Demand good; supply light; $3.10, f.o.b. pier.

New York: Demand strong; trend firm; supply extremely limited; Canadian $3.60 bale (120 to 130 lb.), f.o.b. freight yard; German $3.07 bale (140 to 150 lb.), Dutch $3.05@3.10 bale, f.o.b. pier. Orders being placed now experiencing three or four week delay in delivery.

San Francisco: Demand fair; supply ample; $3.15 bale.

Los Angeles: Demand good; trend steady; supply light; Canadian, 100-bale lots $3.35, spot, Los Angeles.

Boston: Demand steady; supply adequate; imported $3.05.

POTASSIUM IODIDE, U.S.P.

New York: Trend steady; U.S.P. $2.15 lb. in 250-lb. fiber drum or 200-lb. lots; $2.17 lb. in 100-lb. fiber drum; calcium carbonate or stearate mixtures (80% KI), $2.06 lb. in 250-lb. fiber drum or 200-lb. lots; $2.08 in 100-lb. fiber drum; freight prepaid or allowed to destination.

St. Louis: Demand fair; supply ample; 100% pure potassium iodide U.S.P., 250-lb. average in drums $2.15, 100-lb. lots in fiber drums $2.08; potassium iodide calcium stearate mixture, 225-lb. in leverpak drums $2.06; 100-lb. lots in fiber drums $2.08.

RIBOFLAVIN

New York: Trend steady; feed grade (in feed supplements): 9¢ gram in 3.63 to 11 gm./lb. mixtures; freight prepaid or paid to destination.

RICE BY-PRODUCTS

San Francisco: Demand good; supply fair; bran $55, polish $62.

New Orleans: Demand fairly good; trend firm; supply light; bran $41.25@44.50.

Los Angeles: Demand good; trend steady; supply adequate; bran $55.61.

Memphis: Demand poor; trend lower; supply fair; bran $35, sacked, f.o.b. Arkansas points.

Atlanta: Demand fair; trend strong; supply limited; bran $43.25, sacked, immediate.

Ft. Worth: Demand fair; supply moderate; carlots, rice bran $28@29, prompt shipment, f.o.b. south Texas rice mills; hulls $3@4, f.o.b. mills.

SCREENINGS

Minneapolis: The market remains quiet, with both demand and supply light. Quotations: country run $30@35, lights $14@20, mediums $20@30, heavies $30@40; Canadian $19, bulk, Duluth; Canadian ground $30, sacked, Duluth; flax screenings $33.

Buffalo: Demand fair; trend unsteady; supply good; ground, sacked $31, New York, L. & R.; unground, bulk $25.50, New York.

New Orleans: Demand slow; trend steady; supply adequate; 3/64 in. grind $44@46.

Chicago: Demand slow; supply fair; ground grain screenings $32.50; Canadian, bulk $28@28.50.

Cincinnati: Demand fair; trend steady; supply adequate; barley $27, bulk, delivered.

SORGHUMS

Los Angeles: Demand fair; trend steady; supply ample; No. 2 milo, Arizona, 25¢ rate, prompt $3.25; No. 2 milo, delivered CCP, prompt $3.40.

Ft. Worth: Demand fair; offerings light; carlots, bulk, No. 2 yellow $2.97@3.02, delivered TCP.

Cincinnati: Demand and supply fair; trend steady to strong; $3.10@3.15.

SOYBEAN OIL MEAL

Memphis: Demand slow; trend steady; supply ample; prime 44% solvent $61.50, sacked, f.o.b. Memphis.

Atlanta: Demand slow; trend steady; supply ample; 44% $69.60, sacked, immediate.

Ogden: Supply average; $110@115.

Philadelphia: Demand spotty; supply ample; $52, bulk, Decatur.

San Francisco: Demand fair; supply ample; $51.07.

Milwaukee: Demand and supply fair; 41% $70, 44% $68.

Wichita: Demand fair; supply sufficient; 44% $71, f.o.b. Wichita.

Los Angeles: Demand moderate; trend steady; supply ample; $61.07, delivered CCP.

Cincinnati: Demand fair; trend steady; supply adequate; $52.50@53.50, bulk, Decatur.

Minneapolis: Demand remains limited and prices were about steady. Quotations: $49@50, bulk, Decatur.

Chicago: Soybean oil meal dipped in price in the central states during the week ending May 18, although a fair demand and a rather brisk trade existed for nearby supplies. However, demand for deferred shipments was slow, and most of the trade seems in the mood to wait for lower prices.

MILLFEED FUTURES

The following is a comparison of settling prices at Kansas City for May 13 and 20:

Bran—	May 13	May 20
May	$37.85@ 38.20	$36.75@ 37.45
June	37.30@ 38.00	36.25@ 36.85
July	37.00@ 38.00	35.20@ 36.85
August	36.50@ 39.00	35.50@ 38.00
September	37.35@ 39.75	36.25@ 39.50
October	37.25@ 40.50	36.75@ 40.50
Shorts—		
May	$50.75@ 51.10	$50.65@ 50.75
June	47.50@ 48.00	....@ 46.00
July	42.50@ 44.15	41.15@ 42.50
August	....@*42.50	39.75@ 42.50
September	....@*42.50	....@ 42.50
October	42.50@ 44.00	....@ 42.50

*Bid.

Quotations May 18: 44% protein, unrestricted soybean oil meal $63.50@64.50.

New Orleans: Demand fair; trend easier; supply adequate; 44% $74@76.

Decatur: Demand fair; supply adequate; 44% bulk, unrestricted $53@53.50.

Boston: Demand slow; supply plentiful; $51, f.o.b. Decatur.

Kansas City: A new low has been reached with demand rather slow and offerings adequate; for Kansas City and West $50@50.50, bulk, Decatur; unrestricted $51@52, bulk, Decatur.

Seattle: Demand fair; trend steady; supply good; $52.50 ton, delivered, sacked, carlots.

SOFT PHOSPHATE WITH COLLOIDAL CLAY

Chicago: $22@22.75.
Kansas City: $22.15@22.80.
St. Louis: $21.40@22.
Des Moines: $22.50.
Philadelphia: $21.55@22.15.
Minneapolis: $23.15@23.85.
Buffalo: $22.65@23.10.
Atlanta: $15@18.70.
Memphis: $19.40@19.95.

TANKAGE

Milwaukee: Demand weak; supply ample; 60% $75.

Wichita: Demand good; supply insufficient; 60% $77.50, f.o.b. plant.

Los Angeles: Demand fair; trend steady; supply ample; $1.75 a unit of protein.

Chicago: Demand fair; supply ample; 60% protein $75@82.50.

Cincinnati: Demand fair; trend steady; supply adequate; 60% digester $73.50@74.

Louisville: Demand fair; trend weak; supply ample; $77@85 ton.

FARMACEUTICALS . . .
Specifide's Word for Their
"Fine Chemicals for Fine Feeds"

CWT. DISCUSSION

(Continued from page 1)

AFMA committee. The group will meet in conjunction with the AFMA annual convention at the Morrison May 25-27.

Industry members attending the meeting of the purchasing agents will find two reports extremely interesting, it is promised. The first will be by H. C. Eales, assistant general manager of the Poultry Producers of Central California, San Francisco, on "The Advantages of Trading in Cwts. Practiced on the West Coast." Sam Beyhan, executive vice president of Cooperative Mills, Baltimore, a member of the purchasing agents committee and a director of the AFMA, will follow with a report on the discussion in open hearing of cwts. and bushels held during the National Conference on Weights and Measures in Washington May 16.

His report will outline the many facets and problems involved in changing to cwts., but points out the possibilities of doing so and outlines a possible program to bring about the change.

Earlier on May 25 in Parlor C of the Morrison, from 10 a.m. to 12 noon, there will be sub-committee meetings of the purchasing agents, held with members of the trade associations present to discuss the problems in trading rules and procedure in purchasing.

WHEAT QUOTA REFERENDUM

(Continued from page 1)

policy maneuvers of the USDA staff which when made known to the wheat producers may considerably affect the outcome of the vote.

These policy makers believe that the only escape from the strangling effects of the mountain-high surpluses eventually will be to move large quantities of wheat into feed channels where such disposition has been a normal practice.

They are citing some inescapable facts which may persuade wheat farmers that it is to their benefit to vote down marketing quotas and for Congress to amend the existing farm law to give the secretary of agriculture discretion in setting price support levels somewhat higher than the 50% of parity and to order a slight increase in over-all wheat acreage allotments.

It is no secret that if such discretionary authority were granted by Congress that the present secretary would follow the recommendations of his advisors and set the wheat price support at 65% of parity and at the same time set wheat acreage allotments at 62.5 million acres without marketing quotas.

This policy makes sense to the farm community and also to the feed manufacturer and feeder, it is observed here.

At 65% support of the present parity price for wheat, the lower support price would reflect a price relationship with corn that would not be too unfavorable to the cash corn farmer. But another aspect of 65% wheat support plus additional acreage allotments would be even more favorable to the corn farmer.

With oats, barley and grain sorghums supported at 70% of parity and wheat supported at levels higher than 65% of parity without cross-compliance with acreage allotments, there is a marked wheat farmer interest in oats, barley and sorghums which appear to be making inroads into the use of corn as a feed grain. A lower level of wheat support, it is noted, would probably tend to diminish the wheat farmers' interest in those other small grains.

Export Market Limited

Failure to recognize that the only possible market for the heavy wheat surplus is in feed channels, is somewhat like the ostrich approach to the situation. Recognized experts in the international field insist that the U.S. share of the world wheat export market must be conservatively forecast at approximately 175 million bushels for the next few years.

Another phase of the economics underlying the entire surplus price support problem is that of the importance of different segments of the farm economy to the national farm income. USDA officials note that livestock and livestock products constitute approximately 55% of the national farm income. Grains constitute 25% of the balance.

Since the over-all national economy is operating at a high level, it may be of greater importance now to shift emphasis from price supports for grains to greater attention to the livestock economy to which a bulging consumer pocketbook has shown increasing attraction.

USDA to Announce New Prices

The wheat farm alternative will be officially simplified when USDA announces its support price level for the 1956 wheat crop if marketing quotas are accepted. USDA officials declare that the level of support for the 1956 wheat crop under marketing quotas will probably drop from 80 to 75% of parity.

This statement disclosed that the set-aside of 500 million bushels of wheat is not a constant fixed item in the wheat component. It was used last year to cushion the impact of surpluses on the wheat price support program, but recent USDA estimates indicate that when the set-aside of 500 million bushels is deducted from the total supply on July 1, 1955, it will probably be necessary to lower the price support level for the 1956 crop to about 75% of parity on a planted acreage of 55 million and tight controls all across the board.

That is one side of the wheat farmer's coin. The other would be a 65% of parity support with acreage allotments but no marketing quotas wherein some qualities of wheat can be fed to animals and the better qualities of wheat could move at higher than 75% of parity support on the open domestic market.

This prospect makes an attractive equation for the livestock industry and for the feed manufacturer since it promises stability of prices for feed ingredients at somewhat lower price levels to keep pace with an expected increasing consumer demand for livestock products.

Those are the alternatives for the wheat farmer as he faces the referendum.

Fears Unfounded

Meanwhile, there are some fears that a rejection of quotas may throw the world wheat market into chaos. But USDA policy makers do not contemplate standing by if such a condition should arise. It is certain that they will price the wheat stocks higher than a 50% of parity support if the referendum is turned down. Under the present law, the Commodity Credit Corp. could prevent any disastrous break in world wheat prices which, in turn, could provoke sympathetic actions in the other grains.

USDA policy makers have drawn up an interesting pattern of strategy. Their prescription for a solid farm program is emphasis on livestock and protective food production and a diminution of emphasis on grains through incentive of high price support programs. With a modest degree of luck and a deeper examination by the wheat farmers of the alternatives facing them, all things may fall into their proper positions in the farm mosaic at the right time.

The tides of fortune have been shifting widely here in recent months. At one point it seemed clear that the farm bloc was retiring from its adamant demand for rigid 90% supports for the basic commodities. Within the past 10 days USDA was badly shaken when the House passed a repeal of the flexible price support bill which would restore the 90% of parity support program.

But there was encouragement this week when the Senate Agriculture Committee voted 8 to 7 to hold unlimited hearings on the problem. This, in effect, delays indefinitely any action on the bill. It is unlikely that the hearings can be completed in time for floor action this year.

Chicks Hatched by Commercial Hatcheries

(000's omitted)

State and division	During April 1954*	During April 1955†	Jan. thru April 1954*	Jan. thru April 1955†
Maine	2,770	3,116	10,449	11,320
N. H.	3,160	3,065	11,873	10,887
Vt.	192	186	575	477
Mass.	3,672	3,856	13,490	14,086
R. I.	208	190	633	855
Conn.	5,514	5,368	21,602	20,186
N. E.	15,516	15,781	58,623	57,811
N. Y.	4,825	4,550	17,338	15,225
N. J.	8,200	6,260	30,200	22,976
Pa.	12,025	11,430	42,239	36,368
M. A.	25,050	22,240	89,777	74,568
Ohio	12,180	11,200	36,320	30,500
Ind.	19,682	16,706	61,198	44,492
Ill.	17,130	12,700	48,691	33,250
Mich.	5,516	4,100	17,815	13,400
Wis.	5,633	4,610	14,463	11,435
E. N. C.	60,050	48,316	178,476	133,077
Minn.	18,510	16,600	41,680	32,345
Iowa	25,300	23,000	57,240	43,900
Mo.	19,620	14,797	63,580	35,796
N. D.	2,006	1,600	3,518	2,662
S. D.	5,930	5,150	11,460	5,790
Neb.	9,210	7,235	21,811	15,009
Kansas	8,344	6,100	21,653	14,340
W. N. C.	88,920	74,482	210,942	152,842
Del.	5,243	5,841	19,753	19,981
Md.	7,504	6,484	24,872	24,511
Va.	8,444	7,825	30,260	26,146
W. Va.	1,549	1,559	4,679	4,641
N. C.	8,217	9,394	29,497	22,401
S. C.	1,900	1,563	6,150	5,235
Georgia	14,399	16,864	52,732	60,721
Florida	3,074	2,700	11,828	9,700
S. A.	50,335	52,232	179,821	183,336
Ky.	3,610	3,000	10,910	7,950
Tenn.	3,450	3,381	11,265	10,364
Ala.	4,579	4,584	16,760	15,944
Miss	4,796	4,377	17,487	15,264
E. S. C.	16,435	15,342	56,422	50,022
Ark.	7,283	7,739	26,996	25,113
La.	1,159	1,121	3,906	3,716
Okla.	3,580	2,360	10,810	8,890
Texas	13,820	11,250	47,020	39,200
W. S. C.	25,842	22,970	88,732	76,919
Mont.	716	695	1,762	1,630
Idaho	923	820	3,047	2,555
Wyo.	107	60	256	147
Colo.	1,527	1,230	4,183	3,360
N. M.	185	83	562	198
Ariz.	225	170	650	634
Utah	758	713	2,286	1,892
Mount.	4,460	3,776	12,776	10,416
Wash.	3,318	2,510	11,949	9,278
Ore.	2,240	2,063	5,106	7,423
Calif.	12,032	10,730	47,610	40,141
Pacific	17,590	15,303	67,665	56,842
U. S.	304,188	276,442	943,233	795,833

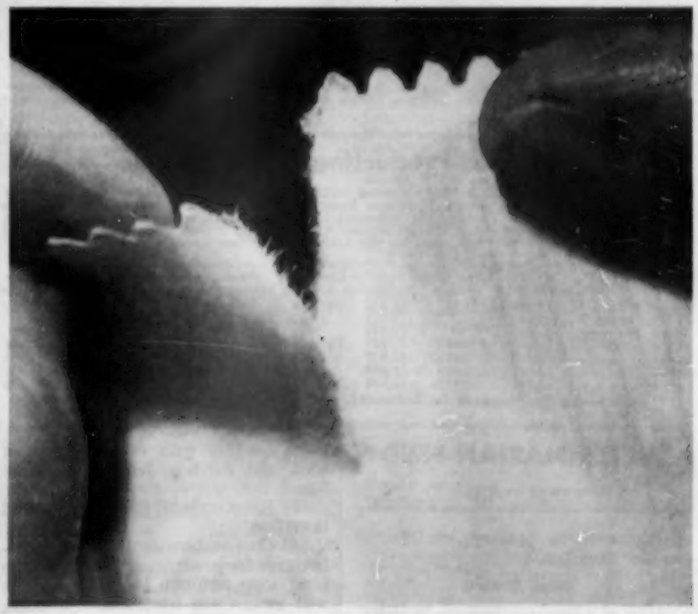
*Revised. †Preliminary.

Poults Hatched and Eggs in Incubators

(000's omitted)

Selected states:	Poults hatched during April—Heavy breeds 1954	Heavy breeds 1955	Light breeds 1954	Light breeds 1955	Eggs in incubators May 1—Heavy breeds 1954	Heavy breeds 1955	Light breeds 1954	Light breeds 1955
Pennsylvania	320	229	175	82	803	755	306	163
Ohio	715	512	141	126	1,396	1,392	225	276
Michigan	730	601	30	33	1,201	1,236	92	62
Wisconsin	331	333	**	**	406	442	74	53
Minnesota	1,680	1,641	400	233	2,350	2,602	900	402
Iowa	1,121	1,076	**	**	1,835	2,003	**	**
Virginia	399	352	634	564	1,236	1,088	1,414	1,196
North Carolina	197	183	**	**	330	301	**	**
South Carolina	320	207	**	**	352	262	**	**
Texas	831	839	102	57	950	1,127	55	103
Oregon	588	766	**	**	1,379	1,412	114	49
California	2,396	2,663	132	105	3,819	4,052	203	135
Other states**	3,927	3,344	722	517	6,625	6,189	1,850	830
U. S.	13,855	12,635	2,344	1,717	22,583	22,860	4,732	3,273

**Combined to avoid disclosing individual operations.



T-P EXTRA LONG FIBERS MEAN BETTER PAPER SACKS

volume bag users find Thomas Phillips TUFFPAK sacks tougher, better built at no extra cost . . .

Having breakage trouble in your shipping sacks? Why continue with standard quality when T-P TUFFPAK is available at no extra cost? TUFFPAK is made by a special Thomas Phillips process that gives each square inch of paper more and longer fibers.

These extra strength papers are carefully made into paper shipping sacks that mean less loss during filling, shipping and warehousing.

If your breakage is running above normal, why not let a Thomas Phillips representative demonstrate TUFFPAK in your plant? There's no obligation.

TUFFPAK is made into bags from 2 to 100 lb. capacities, Sewn or Pasted Open Mouth, Sewn or Pasted Valve, one to five walls.

BAG USERS: SEND FOR LATEST BROCHURE

THE THOMAS PHILLIPS COMPANY
AKRON, OHIO

Chicks Placed in Principal Broiler Areas

(000's omitted)

Week ending:	Maine	Conn.	Penna.	Ind.	Ill.	Mo.	Del.	Md.
March 5	600	553	736	717	203	554	1,582	1,519
March 12	586	567	656	700	188	576	1,534	1,308
March 19	585	543	619	659	162	624	1,452	1,327
March 26	627	533	681	782	232	672	1,583	1,259
April 2	604	622	755	704	181	602	1,592	1,392
April 9	669	440	700	677	196	696	1,800	1,314
April 16	696	459	692	843	210	702	1,636	1,227
April 23	662	509	701	805	202	618	1,626	1,324
April 30	675	576	721	822	209	759	1,880	1,324
May 7	764	466	685	802	230	659	1,829	1,326
May 14	677	522	716	882	231	649	1,787	1,361

Week ending:	Va.	W. Va.	No. Car.	So. Car.	Ga.	Fla.	Ala.	Miss.
March 5	1,275	501	1,220	227	3,135	210	1,122	796
March 12	1,183	486	1,163	191	3,283	198	1,102	830
March 19	1,161	517	1,197	204	3,356	217	1,049	872
March 26	1,230	459	1,242	220	3,373	209	1,068	857
April 2	1,206	490	1,337	205	3,402	213	1,169	901
April 9	1,394	479	1,325	263	3,544	208	1,192	873
April 16	1,367	585	1,375	236	3,632	217	1,256	951
April 23	1,321	556	1,326	386	3,686	201	1,304	926
April 30	1,946	522	1,411	241	3,762	186	1,320	879
May 7	1,471	585	1,409	226	3,720	192	1,371	870
May 14	1,386	600	1,376	244	3,815	202	1,214	885

Week ending:	Ark.	La.	Texas	Wash.	Oregon	Calif.	Total 22 areas 1955
March 5	1,583	247	1,540	240	155	1,114	19,290
March 12	1,509	179	1,490	262	171	1,101	19,330
March 19	1,628	241	1,527	283	143	1,123	19,500
March 26	1,735	241	1,597	216	135	1,249	20,180
April 2	1,937	263	1,598	337	146	1,200	20,910
April 9	1,940	225	1,768	263	103	1,172	21,241
April 16	1,892	346	1,786	285	143	1,283	21,719
April 23	2,023	236	1,874	226	131	1,178	21,660
April 30	1,819	216	1,618	233	149	1,159	21,827
May 7	1,896	267	1,780	225	147	1,105	21,909
May 14	1,910	226	1,721	244	187	1,174	22,010

COMPARABLE 13 AREA TOTALS* (000's omitted)

	Eggs set			Chicks placed		
	April 30	May 7	May 14	April 30	May 7	May 14
1955	22,779	23,339	23,366	17,061	16,967	17,081
1954	21,092	20,169	19,272	15,408	15,854	16,138

*Former reporting areas of Maine, Connecticut, Delmarva, Shenandoah Valley Virginia-West Virginia, North Carolina, Georgia, Texas, Florida, Alabama, Mississippi, Indiana, California and Oregon.

Millfeed Production Shows Decline

Production of millfeed in tons for week ending May 12, and prior two weeks, together with season total of (1) principal mills in Nebraska, Kansas and Oklahoma and the cities of Kansas City and St. Joseph; (2) principal mills of Minnesota, Iowa, North and South Dakota and Montana, including Minneapolis, St. Paul and Duluth-Superior; (3) mills of Buffalo, N.Y. Production computed on the basis of 72% flour extraction.

	Southwest*		Northwest*		Buffalo†		Combined**	
	Weekly production	Crop year to date	Weekly production	Crop year to date	Weekly production	Crop year to date	Weekly production	Crop yr. to date
May 9-13	22,256	1,121,214	12,387	592,386	9,739	475,423	44,382	3,196,023
Prev. week	‡23,537		‡12,177		10,936		‡46,650	
Two wks. ago	23,581		11,745		10,001		45,327	
1954	21,409	1,057,523	11,254	580,429	9,653	445,593	42,316	2,983,545
1953	21,605	1,080,211	13,827	680,273	9,248	463,163	44,680	2,213,637
1952	22,443	1,109,402	13,479	653,112	8,416	440,113	44,338	2,202,627
1951	22,893	1,193,998	12,312	741,058	7,561	417,180	43,766	2,352,236

*Principal mills. **74% of total capacity. †All mills. ‡Revised.

VETERINARIAN-FEED

(Continued from page 7)

particularly in poultry, contributed to the situation.

Keep Posted

How can the veterinarian be better posted on feeds and nutrition? Dr. Erdheim suggested that the profession needs more contact with feed associations; they should attend feed meetings and should read feed trade papers. They should become better acquainted with feed industry representatives in their area. He listed five steps a veterinarian doctor can follow to gain a better understanding:

(1) Become better acquainted with feeds sold in his area; types of feeds; literature and advertising, and practical nutritional advice offered by feed mills.

(2) Visit feed mills in the area; become better acquainted with management in sales and nutrition; become familiar with various forms of feed, and see how feed is manufactured.

(3) Keep up with the latest in feed nutrition.

(4) Cooperate with the feed manufacturer by prescribing feeds through him; a prescription plan such as this will assure the medication of being properly and thoroughly mixed into the feed.

(5) Cultivate the feed man's friendship; discuss mutual problems; point out medication problems to him; exchange professional courtesies, and recommend customers and clients.

The feed industry is an honorable one that has enjoyed a tremendous growth, Dr. Erdheim declared. They use good ingredients, have the best nutritional advice from experts, scientifically formulate, mix and distribute their products under laws which protect feeders.

Feed mills began manufacturing medicated feeds because (1) they believed they were performing a service for feeders, (2) because of competition and the fact that other mills were doing it and (3) because of pressure put on them by consumers who were attracted by strong promotion and advertising direct from drug houses, Mr. Modeer said. Actually, mills aren't too happy about getting into this business because it has created a reason for strict control by the Food and Drug Administration; there is no profit in adding a medicant as the cost is passed on to the consumer, and there are additional costs and concern with drugs involving pre-mixing, assaying and control.

A feed manufacturer feels that he is performing a service to feeders only so long as (1) the administration of the drug can logically be done through feed, (2) the condition of the livestock or poultry doesn't need professional diagnosis, (3) the animal will not be injured by the toxic level of the drug in the feed and (4) the inclusion of the drug in feed is economical and feasible.

Mr. Modeer concluded his remarks by making the following recommendations: (1) that veterinarians learn and pay more attention to poultry diseases and (2) that veterinarians find means of keeping up with feed nutrition.

LIMESTONE • BENTONITE
Calcium Carbonate for Feed Mixing
U.M.C. CALCIUM CARBONATE comes from our Weeping Water, Nebraska, deposit. Pure white—Not off color—Over 98% Calcium Carbonate—Ground to your specifications. Submit your samples for prices.
UNITED MINERAL PRODUCTS CO.
1117 WOW Bldg. • Omaha, Nebraska

MARKETS

(Continued from page 2)

of chick starts will be made in June as flock-owners attempt to correct the sharp reduction made in early season replacements.

Turkey feed volume is continuing to build up, somewhat later than usual in the area, and good tonnage is expected for the season.

Sales of baby pig feeds are tapering off, but hog feeds are improving.

Unless rain is received in parts of the area which have been very dry, prospects for a step-up in dairy feed demand are good. The first cutting of hay will be short, and forage supplies could be cut considerably unless there is a change in the weather.

Laying feeds are not moving well, with most of the business being done in concentrates.

Production of both chicks and poults was off 10% from the April hatch of a year ago in Minnesota, the U.S. Department of Agriculture reports. The number of turkey eggs in incubators May 1 was up 1% from last year, but the number of chicken eggs was 11% less than a year ago on that date.

Production was on a two-shift, five-day basis at most of the larger plants, with one planning a Saturday run, also.

Ohio Valley

Formula feed sales slumped considerably this week in the Ohio Valley, and were reported at a "poor" level for the first time since late March. It was a decided reversal of the trend in April, when area manufacturers were hopeful the business splurge would continue through the spring and early summer months.

It now seems evident that the seasonal business upswing already has spent its force, leaving the situation at about the low and unsatisfactory level of last winter.

One somewhat bright spot in the otherwise gloomy picture is the unexpected strength of poultry feeds, which appears to be in quite sharp contrast to the situation in many other areas. This week turkey feeds were in more demand, with broiler feeds trailing closely. Sales of chick starters and egg mashes were off somewhat, with hog and dairy feeds moving in near-minimum quantities.

Central States

Formula feed business varied among manufacturers in the central states during the week ending May 18, but appeared to average out about unchanged for the period. The consensus is that feed sales are not quite as good as they should be, but that they could be worse.

Most plants report they are operating five days a week, with only a few reporting they are running with reduced crews. Some plants are operating six days a week. However, only small backlogs are indicated, as most feeders, dealers and distributors seem to want to play close to the belt, buying only as needed. Trade observers say there is little incentive to book ahead, with the growing season on and harvest for some products in the offing. Prices, they say, are unlikely to make any huge gains, while the chances are that they might lose some ground.

Feed prices were slightly lower in the area during the current week, reflecting lower prices for some major ingredients.

Poultry feeds accounted for most of the volume, with turkey feeds showing some pick-up. Hog feeds, also, moved fairly well.

Northeast

Formula feed sales were a little slower last week. Poultry feeds—egg mashes, broiler and starting feeds—held up pretty well, but dairy feed sales continued downward.

Farmers are beginning to cast an anxious eye on drouth conditions in New York state. It was said that the dry ground might have stunted the first hay crop, and plowing has been slowed. If the drouth continues dairy farmers will have to manage their pastures very carefully and possibly switch back to dry feeds.

Broiler prices edged up 1¢. Medium-sized eggs slipped a little, but the other grades held about steady.

There was not much change during the week in ingredient prices but it is not known yet whether the market has bottomed out.

Running time of formula feed manufacturers averaged 42 hours this week. Production schedules varied, with some manufacturers averaging a 10-hour day on their poultry lines and 8 hours on their dairy and hog lines.

Sales of millfeed were fairly good last week. Most of the activity centered in middlings. Buying interest came from the small mixers, with the large mixers riding their inventories. Country trade was quiet. Bran ended the week 50¢ lower and middlings were unchanged. Heavy feeds were strong on good southern hog demand and up $1@1.50. Buffalo's levels were competitive with the West on bran and way below on sacked and bulk middlings. There were some sales, mostly middlings, made from Buffalo to the New England area during the week.

Southeast

Feed business in the Southeast has shown a slight improvement over the past week, and there seems to be a better feeling by feeders as well as manufacturers. The broiler market has made a slight advance from recent declines in prices, and growers seem to be well-satisfied with the present margin of profit. Some mills in the main areas of broiler production report running time to be three 8-hour shifts six days a week, with demand holding very well. Prices are somewhat cheaper due to the declining markets of the various feed ingredients.

Some welcome rain was received in the Southeast this week, relieving temporarily, at least, drouth conditions which had already started to develop again this year. Farmers and feeders are more confident now than they have been during recent weeks. Citrus pulp advanced this week, and although the boost was not as great as had been expected, the price is up $2.50 ton for citrus pulp, meal and molasses.

Feed manufacturers are displaying more confidence in present markets, and heavier buying, particularly of specialty items, has been in evidence. Many reports indicate that the manufacturer feels that the main protein markets, such as soybean meal, have declined about enough. However, inventories are still at a bare minimum, with hand-to-mouth buying still prevalent. Fishing is still poor in the Southeast, and demand for spot fish meal is greater than supply. Market prices remain firm for this reason.

Although the tonnage has been reduced considerably, the government this week is offering additional oats from storage in the Southeast. Rice bran and other rice products are being sold to exporters who are evi-

TRADE MARK REG.
VITA-GEE
A LIVE YEAST CULTURE — for 4-footed animals and poultry. Supplies all known B Complex Vitamins including B_{12} plus other nutritional factors. Easy to add to any formula.
Write or Wire for sample and prices.
ZELLERS' LABORATORIES READING, PA.

INDEX OF ADVERTISERS

Abbott Laboratories 87
Acme Traffic Service 140
Agri-Tech, Inc. 73
Albemarle Paper Mfg. Co. 71
Albers Milling Co. .....
Allied Chem. & Dye Corp., Nitrogen Div. 32
Allied Mills, Inc. 45
Amburgo Co. 148
American Agricultural Chemical Co. ... 120
American Cyanamid Co. 91, 92, 93, 94
American Dehydrators Assn. 54
American Elevator & Grain Division 24
American Feed Mfrs. Assn. 9
American Mill Service Co., Inc. .....
Ames Reliable Products Co. 19
Anderson Box Company .....
Anderson, V. D., Co. 102
Anglo American Mill Corp. .....
Arcady Farms Milling Co. .....
Archer-Daniels-Midland Co. 121, 138
Arid-Aire Mfg. Co. .....
Arkell & Smiths 116
Armour & Co. .....
Atlas Cordage Co. .....
Atomic Basic Chemicals Corp. 154
Aubrey Feed Mills 23

Baker, H. J., & Bro. 27
Bartlett, The C. O., & Snow Co. 115
Barton Salt Co. 140
Bates Grain Co. .....
Baughman Manufacturing Co., Inc. 106
Baxter, A. E., Engineering Co. 86
Bayou Molasses Co. .....
Beacon Milling Co. 155
Bemis Bro. Bag Co. 111
Berg Bag Co. .....
Bigelow Sales Co. 171
Black, Sivalls & Bryson, Inc. .....
Blatchford Calf Meal Co. 41
Blomfield-Swanson .....
Bonewitz Chemicals, Inc. .....
Borden Company 145
Bosworth Commission Co. .....
Bowman Feed Products, Inc. 97
Bradley & Baker 28
Bremco Alfalfa Mills, Inc. 58, 87
Brewers Yeast Council, Inc. 31
Brower Manufacturing Co. 44, 100
Bryant Engineering Co. 30
Burlap Council, The .....
Burrows Equipment Co. 58
Burrus Feed Mills .....
Butler Manufacturing Co. .....

Calcium Carbonate Co. 89
California Pellet Mill Co. 86
Caple, A. B., Co. 61
Cargill, Inc. 135
Cereal Byproducts Co. 26
Champion Portable Mill Co. .....
Chantland Mfg. Co. .....
Chase Bag Co. 131
Checkerboard Elevator Co. .....
Cheme Puro Mfg. Corp. 137
Citrus Processors Assn. .....
Clay, John J., Sales Co., Inc. 85
Clinton Foods Inc. .....
Clofine, Herbert K. 48
Colby Milling, Inc. 65
Cold Spring Granite Co. .....
Columbia Phosphate Co. 111
Columbia Quarry Co. 56
Columbian Steel Tank Co. 82
Commercial Solvents Corp. 99
Consolidated Blenders, Inc. 105
Continental Distilling Corp. .....
Continental Grain Co. 171
Corn Products Refining Co. .....
Coronet Phosphate Co. 90
Cosby-Hodges Milling Co. .....
Coshocton Farmers Exchange .....
Cox, Charles M., Co. 11
Crete Mills 86
Cromwell Paper Co. .....
Cumberland Testing Lab. 62

D. C. A., Inc. 96
Daffin Manufacturing Co. .....
Dannen Mills, Inc. 51
Dawe's Laboratories, Inc. 39, 95
Dawson County Feed Prod., Inc. 16
Day Company, The 108
Dayton Bag & Burlap Co., The .....
Dayton Oil Co. 24
Des Moines Oat Products Co. 40
Devold, Peder, Oil Co. 134
Diamond V Mills, Inc. 88
Dickson, John W. 172
Distillation Products Industries 109
Distillers Feed Research Council 77
Doane Feed Products Co. 164
Doty Technical Laboratories 79
Douglas Chemical Co. .....
Dow Chemical Co. .....
Dreyer Commission Co. 142
Dunbar-Kapple, Inc. .....
Duplex Mill & Mfg. Co. 69, 70
Du Pont de Nemours & Co., E. I. 04, 65, 83, 114

Early & Daniel Co. .....
Eastman Chemical Products, Inc. .....
Edwards Milk Products Co. .....
Elk Valley Alfalfa Mills, Inc. 171
Entoleter Division .....
Eschenheimer, Rudy, Co. .....
Eshelman, John W., & Sons .....
Esamueller Co. .....
Ewing, Ray, Co. 50, 51
Exact Weight Scale Co. 118
Excelsior Milling Co. 95

Farm Chemicals Co. 122
Farmer Feeder Co., Inc. .....
Farmers Friend Mineral Co. .....
Faultless Milling Co. .....
Faust, Henry K. 138
Feed Associates, Inc. .....
Feed Bag, The 43
Feed Products & Service Co. .....
Feedstuffs .....
Fischbein, Dave, Co. .....
Flambeau Milling Co. .....
Flavor Corp. of America 3
Food Machinery & Chemical Corp. .....
Food Research Laboratories, Inc. .....
Forster Mfg. Co. .....
Fox Co. 116
Fruen Milling Co. 7
Fulton Bag & Cotton Mills 59

Gabrielson Feeds .....
Gainer Mills, Inc. .....
Garelick Bros. Farm, Inc. .....
Geerlings Feed Mills 50
General Mills, Inc. 107
Glencoe Mills, Inc. .....
Glidden Co., The 120
Godshalk Sheet Metal Fabricators 167
Goodrich, B. F., Chemical Co. 84
Gorton-Pew Fisheries 152
Grace Chemical Co. .....
Gump, B. F., Co. 122

Hales & Hunter Co. 138
Half Moon Mfg. & Trading Co., Inc. 89
Hallenbeck Inspection & Testing Lab. .. 97
Hallet & Carey Co. .....
Hammond Bag & Paper Co. 90
Hand, Peter, Foundation 44
Hardy, H. E., & Co. .....
Hardy Salt Co. .....
Harris-Crane, Inc. 96
Harshaw Chemical Co. 72
Hayes & Stolz Manufacturing Co. .....
Heil Co., The .....
Herring Sales Co. .....
Hess, Dr., & Clark, Inc. 49, 62
Heyman Co., The .....
Heywood & Rabb, Inc. .....
Hiawatha Grain Co. 75
Highway Equipment Co., Inc. .....
Hilltop Laboratories 40
Hoffman-Taff, Inc. .....
Hogg, N. D., Ltd. .....
Holt Products Co. .....
Honeggers' & Co. 63
Hornblower & Weeks 68
Hot Spot Detector, Inc. .....
Howes, S., Co., Inc. 12, 48, 130, 157
Hubbard Milling Co. 112
Hubbell, Charles H. .....
Hudson Pulp & Paper Corp. 74, 75

Ibberson, T. E., Co. 143
Illinois Soy Products Co. 122
Indian Jute Mills Assn. .....
Industrial Molasses Corp. 126
Ingman Laboratories 118
International Minerals & Chem. Corp. .. 55
International Paper Co., Bagpak Div. ....
International Salt Co. .....
Iowa Limestone Co. .....

J-M Trading Corp. 78
Jacobson Machine Works 127
Jersee Co. 138
Joseph, I. S., Co., Inc. .....

Kasco Mills, Inc. 130
Katz, Max, Bag Co. 98
Kees & Company 58
Kellogg, Spencer, & Sons, Inc. 164
Kent Feeds 13
Kent, Percy, Bag Co., Inc. 108
Keystone Steel & Wire Co. .....
Kiewit Feed Co. .....
Kindstrom-Schmoll Company .....
King Midas Feed Mills 153
Koelsch, Charles J., Grain Co., Inc. 96
Kolon Trading Co., Inc. 66
Koppers Company, Inc. .....
Kraft Bag Corp. 104

Laboratory Construction Co. 22
Laboratory of Vitamin Technology .....
La Budde Feed & Grain Co. 141
La Crosse Milling Co. 122
Landby Dehydrating Co. 171
Larvacide Products, Inc. .....
Lasaon Process .....
Lauhoff Grain Co. 75
Lee, Geo. H., Co. 87
Leftwich, J. H., & Co., Inc. .....
Le Gear, Dr., Medicine Co. .....
Lilly, Eli, & Co. 147
Limestone Products Corp. of America .. 110
Loncala Phosphate Co. .....

McCabe Grain Co., Ltd. 87
McMillen Feed Mills 67
Mallinckrodt Chemical Works 130
Maney Bros. Mill & Elev. Co. 4
Marco Chemical Co. 123
Markley Laboratories .....
Martenis, C. J., Grain Co. 20
Martin Steel Products Corp. 154
Martin, Theo. W., & Son .....
Mattox & Moore, Inc. .....
Mayo Shell Corp. 16, 20, 34, 66, 115, 157, 167
Merck & Co., Inc. 52, 53, 119
Merrithew, Bill, Co. 74
Metal Katcher Co., Inc. .....
Mid-Continent Grain Co. 144
Mid Star Mfg. Co. .....
Midwest By-Products Co. 150
Midwest Cordage Co., Inc. 167
Midwest Feed Mfrs. Assn. 160
Milbrew Co. .....
Miller Alfalfa Co. 89
Miller Manufacturing Co. .....
Minneapolis Sewing Machine Co. 144
Minnesota Linseed Oil Co. 132
Minnesota Specialty Co., Inc. .....
Mitchell, Hutchins & Co. 24
Monsanto Chemical Co. .....
Moore Dry Dock Co. 26
Morris-McAdams Co. .....
Morton Salt Co. 46
Mowat, Wilson & Co. 78
Mullin & Dillon Co. 122
Munson Mill Machinery Co. 130
Murphy Products Co. 29
Myers-Sherman Co. 98

Nagel, Herman, Co. 154
Natl. Alfalfa Dehydrating & Mlg. Co. .. 176
National Cotton Council .....
National Cottonseed Prod. Assn. 118
National Distillers Products Corp. 106
National Feed Merchandising Council ... 167
National Molasses Co. .....
National Oats Co. .....
National Renderers Assn. 33
National Sea Products, Ltd. 30
Neff & Fry Co. .....
Nellis Feed Co. 68
Neumond Co. .....
New Century Co., The .....
New England By-Products Corp. 152
New York Quinine & Chem. Wks., Inc. ..
Nichols Poultry Farm, Inc. 134
Nigh, W. H., & Co. .....
Nitrogen Div., Allied Chem. & Dye Corp. 32
Nitrogin Co., Inc. 12
Nootbaar, H. V., & Co. .....
Nopco Chemical Co. 34, 35
North Am. Trading & Import Co., Inc. ... 152
North Carolina Granite Corp. .....
North East Feed Mill Co. 113
Norwood Manufacturing Co. .....
Nutrena Mills, Inc. 135

O. & M. Seed Co., The 104
Omega Machine Co. .....
Osborne McMillan Elevator Co. 117
Oyster Shell Products Corp. 113

Pabst Brewing Co. 59
Pacific Processing Corp. .....
Paper-Calmenson & Co. 124
Park, Philip R., Inc. .....
Parks, J. P., Co. 7
Parrish, N. K. .....
Parrish & Heimbecker 98
Pay Way Feed Mills, Inc. .....
Peavey, F. H., & Co. 32
Peerless Equipment Co. .....
Pell-Bari Farms, Inc. .....
Pfizer, Chas., & Co., Inc. 80, 81
Phenix Foods Co. 66
Phillips, The Thomas, Co. 173
Piehl's Alfalfa Mill 100
Pillsbury Mills, Inc. 57
Pittsburgh Plate Glass Co. .....
Plees & Sheahan 47
Pope Testing Laboratories, The .....
Potomac Poultry Food 118
Prater Pulverizer Co. 56
Pratt Food Co. 142, 143
Premier Peat Moss Corp. 48
Publicker Industries, Inc. 125, 152

Quaker Oats Co. .....
Quisenberry Mills .....

Ralston Purina Co. 15
Rapids Machinery Co. 134
Raymond Bag Co., The .....
Red River Alfalfa Co. .....
Regniere, Emile, Co. 113
Reliance Feed Co. .....
Richardson, James, & Sons 102
Richardson Scale Co. 158
Riley Feed Co. .....
Rohloff Brothers, Inc. 106
Ryde & Co. 88

St. Regis Paper Company 88, 89
Salsbury's, Dr., Laboratories 165
Sargent & Co. 21
Scanlan, Ivan, & Co. .....
Schenley Distillers 139
Schreiber Mills, Inc. .....
Schuster Feed Co. 96
Schutte Pulverizer Co. .....
Scroggins Grain Co. 12
Sea Pep .....
Security Mills, Inc. .....
Sedberry, J. B., Inc. .....
Seedburo Equipment Co. 128
Selders, Eugene L., Co. 164
Shellbuilder Co. 140
Sievert, C. W., and Associates .....
Silmo Chemical Corp. 151
Simonsen Mfg. Co. 147
Sinason-Teicher Inter-American Grain Corp. 147
Small, The W. J., Co. 5
Smith, J. Howard, Inc. 40
Soft Phosphate Research Inst., Inc. 26
Southern Equipment Co. .....
Southern Oyster Shell Mfg. Corp. 72
Southwell Grain Corporation 101
Southwest Mill Supply Co. .....
Specifide, Inc. 12, 22, 30, 144, 158, 172
Spencer Kellogg & Sons, Inc. 164
Sprout, Waldron & Co., Inc. 61
Stabilized Vitamins, Inc. 36, 37
Staley, A. E., Mfg. Co. .....
Staley Milling Co. .....
Standard Brands, Inc. 141
Standard Molasses Co. .....
Stivers, Theo. .....
Stone Mountain Grit Co. 86, 87
Strong-Scott Mfg. Co. 151
Sunset Feed & Grain Co., Inc. 54
Superior Feed Co. .....
Superior Separator Co. 78
Supersweet Feeds 135
Swanson, Carroll, Sales Co. 141
Swift & Co. .....
Syntha Laboratories .....

Taste Engineering, Inc. 68
T. D. F. Company 96
Tamms Industries .....
Technical Service Laboratory .....

Ubike Milling Co., The .....
Uhlmann Grain Co. 118
Ultra-Life Laboratories, Inc. 156
Uncle Johnny Mills 17
Union Special Machine Co. .....
United Distributing Co. .....
United Mineral Products Co. 174
U. S. Industrial Chemicals Co. 101

Van Camp Sea Food Co., Inc. .....
Van Dusen Harrington Co. 32
Virginia-Carolina Chemical Corp. .....
Vitality Mills, Inc. 149
Vitamine, Inc. 159
Vy Lactos Laboratories, Inc. .....

W-W Grinder Corporation 96
Wallace & Tiernan Co. Inc. .....
Walsh Grain Co. 120
Ward Feed Co. 16
Warren-Douglas Chemical Co., Inc. .....
Warren Feed & Grain Co. .....
Waterloo Mills Co. 157
Weller, B. L., Co. .....
Wells, Ralph, & Co. .....
Wenger Mixer Mfg. Co. 76
Western Condensing Co. 103
White Laboratories, Inc. .....
Whitmoyer Laboratories, Inc. 129
Williams, H. R., Mill Supply Co. .....
Williamson, John W., & Sons 20
Wilson & Co. .....
Wisconsin Alumni Research Foundation .....
Woodson-Tenent Laboratories 31
Woodward & Dickerson, Inc. 146
Worthmore Feeds .....

Zellers' Laboratories 174

dently willing to pay higher prices than the domestic trade will offer, and this is causing scarcity of these items and slight advances in price.

Pacific Northwest

The formula feed business continued draggy, with hatcheries reporting that their business shows every chance of tapering off within the next 30 to 60 days without having experienced any particular "bulge."

Turkey poults are said to have advanced a bit in price, and demand is fairly good, but heavy feeding of turkeys in this area will not begin for another month or two. The turkey population will be down this year from last, and formula feed manufacturers feel that any increase in turkey volume will only offset the loss of dairy volume, since pastures are improving rapidly and most dairy animals are off formula feeds.

Millfeed is tight and the market very strong due primarily to good California demand. Hay continues tight for spot supplies, although new crop will be available in another two or three weeks, so no one is buying ahead. Protein markets are draggy due to the lethargic soybean meal situation, and there is little feature in the ingredient trade except for millfeed. Feed men feel that even this millfeed situation is temporary, because new crop barley is just around the corner, and any improvement in flour milling could bring selling pressure into the market.

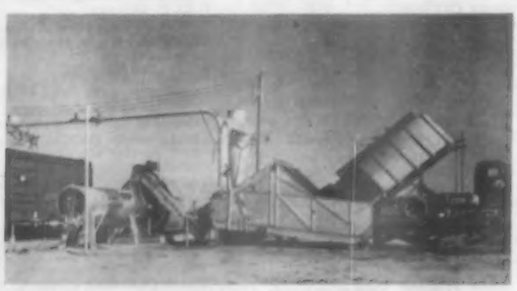
Formula feed prices are about holding their own, and feeding ratios are reported to be quite favorable, with the long-range prospects excellent for commercial egg producers.

Weather continues unseasonably cool and wet, with the Weather Bureau reporting 40 successive days of below-normal temperatures. This has the effect of slowing down the trade as a whole.

NATIONAL ALFALFA

"JACK RABBIT BRAND"

Top-quality dehydrated alfalfa meal must start with top-quality alfalfa in the field. National's modern harvesting machinery, plus closely controlled cutting schedules, insures rapid handling into the dryers, and the production of maximum protein and Vitamin A.



At this point, experienced dehydration engineers closely control drying temperatures for optimum quality output. Constant attention to this flash-drying principle insures National of peak greenness and superior nutritional goodness in all its alfalfa products.

Laboratory technicians, trained specifically in alfalfa chemistry, work with up-to-the-minute procedures and facilities to read and report precise analyses. From here, National's top customer service joins up to complete a fully integrated alfalfa program. DEPEND ON NATIONAL FOR YOUR YEAR 'ROUND PROGRAM.

Quality Controlled from Field to Feed

THE HIGH standards for alfalfa products set by National . . . as to Protein, Vitamin A, Color, and Grind . . . are maintained by strict quality control—*from the field to your feed.*

National's Jack Rabbit Brand of alfalfa comes from soil selected to bear only the finest crops. Alfalfa seed . . . developed to yield thin-stemmed, leafy plants . . . is recommended to the growers by National managers.

Because proper cutting time is so vital to quality, National's dehydrating plants operate on carefully planned schedules. And to further insure highest quality, the latest equipment and methods are used in harvesting and transporting the alfalfa to the dehydrator.

National's blending plants, after meticulous laboratory analysis, then blend and control the level of quality so that feed manufacturers are assured of a perfect premixed alfalfa ingredient the year 'round.

Whether your needs are 2 cars or 200 . . . you can be assured there will be no variance from the high standards set by National Alfalfa. Why take chances with anything less than the best to meet your specifications? Call us today.

ACROSS THE LAND

TO BETTER SERVE THE FEED INDUSTRY

NATIONAL ALFALFA DEHYDRATING AND MILLING COMPANY

GENERAL SALES OFFICES: BOARD OF TRADE BUILDING • KANSAS CITY 5, MO.